Isaac Abbot's

D. H. S. Esq

ELEMENTS

OF

THERAPEUTICS;

OR A

GUIDE TO HEALTH;

BEING

CAUTIONS AND DIRECTIONS

IN

THE TREATMENT OF DISEASES.

DESIGNED CHIEFLY FOR THE USE OF

STUDENTS.

BY THE REV. JOSEPH TOWNSEND, M. A.

RECTOR OF PEWSEY, AUTHOR OF THE PHYSICIAN'S VADE MECUM, AND OF A JOURNEY THROUGH SPAIN.

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PREFACE

TO THE SECOND EDITION.

THE Work now presented to the Public, will assist the *Student*, not merely in the practice, but in the science of medicine; will teach him, by *methodical arrangement*, to distinguish diseases with precision, and by *rational indications*, not only to form his plans, but to pursue them with confidence. Caution is absolutely needful, and a watchful attention is highly to be praised; but timidity, if the offspring of ignorance, is, in a medical practitioner, most worthy of reproach.

The *nosological* part of my work is founded upon the Nosologia Methodica of Dr. CULLEN: the *practical observations* are derived from my own experience in the country, from conversation with the ablest physicians in Britain, France, and Spain, and from the most approved authors.

It is much to be lamented, that Dr. CULLEN did not leave an English translation of his Nosology, for the benefit of *country Apothecaries*. To supply the place of this I do not hesitate to recommend my Work, in which they may learn to detect not only *Diseases*, but their *Causes*, which is certainly the only foundation for a rational and successful practice.

This Work will, I trust, be acceptable likewise to the country *Clergy*, whose inclination to be useful among their poor parishioners in times of sickness, has too frequently gone beyond their knowledge. I can venture to assure them, that, with moderate application to this Work, the impediment will be speedily removed, and they may have the comfort, not only of attempting to relieve distress, but of seeing clearly the extent of their ability both to distinguish and to cure diseases.

In

In the practical part I have inserted a variety of forms, for many of which now added, I must acknowledge myself obliged to Sir John Pringle, through his friend Dr. Ingen Houz, and to Dr. Smith, whose valuable formulæ merit particular attention: but I wish the Student to understand, that these require to be altered, as the age, the constitution, and the circumstances, of the patient may require.

Let the young practitioner learn the nosology; let him study the Indications; let him be attentive to the Operation of every simple medicine; and he will be never at a loss, having a slight knowledge of Chemistry for his Prescriptions: but without this knowledge and attention, his blunders will be innumerable.

If any one, not bred to science, should imagine, that by consulting this Work he may readily become his own Physician, he mistakes my meaning.

Yet such has in general been the defective education of country Surgeons, that families of small fortune, unable to seek the advice of a physician, are not unfrequently reduced to the disagreeable necessity of consulting books. For their sakes therefore chiefly I have given most of the prescriptions in English, that in cases of *emergency* they may not be wholly destitute of help: nevertheless, I most earnestly exhort the heads of families not to *tamper* with their children, or others, and give that preference to books and their own judgment, which is more properly due to the MEDICAL PRACTITIONER.

It is much to be lamented that, in this enlightened age, the attention of the Public should still continue to be turned towards *Specifics*, when it is well known, that the same disease not unfrequently proceeds from a variety of causes, and therefore, properly speaking, *no Specific Remedy* can exist.

What reason can we assign then for the astonishing, and still increasing, demand for *Quack Medicines* and *Quack Books*? Whence is it, that *Quack Medicines* and *Quack Books* are to be found, not merely among the lower classes of society, but in respectable families, and almost in every house? It is, that they have a higher opinion of such Medicines and of such Books, than of the Judgment, the Skill, the extensive Experience, of men devoted to the Science; of men, who have been regularly taught, and who are in the daily habit of distinguishing diseases? No, certainly it is not.—But I leave this important question to be answered by Writers on *Political Economy*.

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ELEMENTS

OF

THERAPEUTICS;

OR A

GUIDE TO HEALTH.

INTRODUCTION.

DISEASES may be reduced to four Classes.

1. PYREXIÆ.	3. CACHEXIÆ.
2. NEUROSES.	4. LOCALES.

Of which the subsequent are the distinctive characters.

PYREXIÆ.

Febrile diseases.—After cold shivering a frequency of pulse, with increase of heat and thirst.

2. NEUROSES.

Nervous diseases.—Affections of sense and motion disturbed; without either idiopathic Pyrexia or topical disease.

3. CACHEXIÆ.

Cachexies.—A depraved habit of body; without Pyrexia or Neurosis, as original diseases.

4. LOCALES.

Local diseases.—Morbid affections which are partial.

When therefore a disease presents itself, the medical student must carefully examine to which class it may be referred.

If, for example, he finds a frequency of pulse, with increase of heat succeeding cold shiverings, the disease must be clearly referred to the class PYREXIÆ.

Having thus traced it to the class, he will proceed to investigate the order.

The Orders of this class have been reckoned five; they should be only four.

1. *Febres.*
2. *Phlegmasiæ.*
3. *Exanthemata.*
4. *Hemorrhagiæ.*

Of which the pathognomonic symptoms are the following:

1. *Febres.*

Pyrexia, with loss of appetite, and diminution of strength, but no primary local affection.

2. *Phlegmasiæ.*

Pyrexia, with topical pain and inflammation.

3. *Exanthemata.*

Contagious diseases, beginning with fever, and followed by an eruption on the skin.

4. *Hemorrhagiæ.*

Pyrexia, with a discharge of blood, without any external injury.

Let the student, having traced a disease, for instance, to the Class PYREXIÆ, suppose that with the frequency of pulse and increase of heat, after cold shiverings, he meets with loss of appetite and diminution of strength, not attended by any eruption on the skin; in this case he would refer the disease to the Order FEBRES.

Of the Order FEBRES we have two genera.

1. *Febris Continua.*
2. *Febris Intermittens.*

1. FEBRIS CONTINUA.

Continued Fever.—No intermission, yet subject to exacerbations twice in one day.

2. FEBRIS INTERMITTENS.

Ague. Intermittent Fever.—Cold, hot, and sweating stages in succession, attending each paroxysm, and followed by an intermission.

Quotidians usually come on in the morning, at an interval of abou. twenty four hours.

Tertians at noon, at an interval of about forty eight hours.

Quartans in the afternoon, with an interval of about seventy two hours.

Although,

Although, strictly speaking, we have only two genera of the Order FEBRES, I shall here venture, with most nosologists, to introduce a third; confessing at the same time, that loss of appetite, a characteristic symptom of the Order, is not essential to this Genus.

3. FEBRIS HECTICA.

Hectic Fever.—Has exacerbations at noon, but chiefly in the evening, with slight remissions in the morning after nocturnal sweats; the urine depositing a bran like sediment. Thirst moderate.

Should then a case present itself, which the student, from the characteristic symptoms, has referred to the Class PYREXIÆ, and to the Order *Febres;* and should he in this disease remark no intermission, although it be subject to exacerbations twice in one day, he cannot be at a loss to ascertain the Genus, but will consider it as a *Febris Continua.*

Should he observe cold, hot, and sweating stages in succession attending each paroxysm, and followed by an intermission, he will not hesitate to pronounce it *Febris Intermittens.*

Should he with Pyrexia find moderate thirst, the evening exacerbations with the morning sweats, but no intermission; and should he observe a bran like sediment in the urine; he may be certain, that his patient has an *Hectic.*

I have chosen thus to begin with fever, as being, 1st, the disease of all others most incident to the human race; 2d, as being under improper management the most destructive; 3d, as throwing light on many other parts of Nosology.

Class I. PYREXIÆ. Order I. FEBRES.

Genus I. *Febris Continua.*

Continued Fevers.

SECTION I.

THEIR species have been distinguished into ardent or inflammatory; nervous; putrid; malignant; jail and hospital; plague; bilious; bilious autumnal; and yellow fever

fever of Jamaica. All these appellations have a degree of propriety annexed to them; but I think it sufficient to distinguish two species, *Synocha* and *Typhus*, because, strictly speaking, all continued fevers may be reduced to one of these.

Synocha.

Heat much increased; pulse frequent, strong, hard; urine high coloured; senses not much impaired.

Typhus.

Heat moderate; pulse quick, weak, small; senses much impaired; prostration of strength.

Such are the definitions; but in order to give a clear and distinct idea, it may be proper to state a case of what has been called the *Bilious Autumnal Fever*, which began, as *Synocha*, with inflammatory symptoms, and terminated in *Typhus*, with symptoms of putridity; that having established facts, we may introduce observations on those facts, and afterwards attempt some rational theory of the disease.

SECTION II.

A CASE OF CONTINUED FEVER, WITH OCCASIONAL REMARKS AND OBSERVATIONS.

A. B. of a sedentary life and of a bilious habit, subject for many months to costiveness, and liable upon every sudden application of cold, when he had been previously heated, to symptoms of jaundice: subject likewise to the *gastrodynia flatulenta* of Sauvage, which symptoms had always been removed by emetics and cathartics: subject also for some considerable time, previous to the attack of fever, to such debility, that he could not without sweating work five minutes in his garden: and passing restless nights, unable to procure sleep without cathartic medicines.

This patient, on the fourth of September, *being bathed in sweat, met a cold northern blast.* He returned home however, without the least suspicion that he had received injury. He passed a restless night; but when he rose in the morning, he perceived no approach of fever, till the commencement of a solar eclipse, at half after nine, during which he was seized, September 5th, with chills, followed by shiverings, slight delirium, and loss of appetite. He continued suffering by cold for above four hours, after which a burning heat succeeded, which was followed by a sweat. During the cold stage he took 50 drops of Huxham's essence of Antimony, which emptied his stomach;

once;

once ; but finding the symptoms aggravated, and the gastrodynia flatulenta making its approach, which was marked by a pungent pain under the right breast ; finding likewise a cough, attended by a discharge of phlegm streaked with blood ; he sent for medical assistance, and took saline draughts, followed the succeeding day by a cathartic of senna and soluble tartar.

OBSERVATION I.

On the Power of Heat and Cold producing Changes in the Human Frame.

1. That *heat*, like all other stimuli, may have a debilitating power, must be obvious to every one, who pays the least attention to plants and animals. During the scorching heats of summer, especially at midday, all nature languishes, and her energy is lost.—The plants, exhausted of their vigour, hang their heads ; their foliage droops : and among these the Mimosa pudica, the Dionæa muscipula, with the Hedysarum gyrans, lose their sensibility and motion ; whilst the various tribes of animals, panting for breath, seek some cool retreat. Even in our northern latitude this cannot escape our notice ; but to see it in perfection, we must visit the more sultry regions of the south, where the African, patient of heat, is obliged to intermit his labour, whilst the inhabitants of more temperate climates, such as Italy and Spain, retire into some dark recess and sleep. In this cool retreat, the vital energy is soon renewed.

2. When there is an accumulation of *heat* in the system, the blood is determined to the surface, and the cutaneous discharge increases ; a sweat, usually copious in proportion to the superabundant quantity of heat, breaks out ; the evaporation carries off this surplus, and the equilibrium is restored.

3. Cold, that is to say the absence of heat, has an opposite effect. When properly applied, it strengthens, giving vigour to the body, and energy to the powers of the mind. These effects are visible in high latitudes till you approach the poles, where all is torpid ; or till you ascend to those elevated regions, where eternal winter reigns. There no vegetable thrives except the *Lichen ;*

no

no animal but the *Reindeer* of frozen Lapland, or the *Chamois* on the lofty summits of the Alps. In these situations we may see in the greatest possible perfection the sedative power of extreme and continued cold; but the moderate, or the sudden and transitory application of cold, has a different effect.

Let us consider its operation, when applied to the surface of the body in the act of bathing. The first effect is a constriction upon the extreme vessels. This propels the blood towards the heart, with such increase of quantity and velocity, as to augment in the same degree its stimulating power. In consequence of this, the reaction of the heart and arteries sends back the blood with increased velocity to the surface of the body, so as in a healthy subject to overcome the stricture, diffuse a genial warmth, and create a keen appetite for food, with a sense of lightness, alacrity, and strength.

4. If *cold* be gradually applied, the constriction is more permanent; the internal secretions are increased, and the perspiration is diminished; yet so far is this from producing a disease, that health and vigour are thereby much improved.

5. When *cold and humidity* succeed to heat, more especially if the change be sudden, the balance of the system is destroyed; perspiration is checked; and the blood is determined to the internal surfaces, producing tension in the minuter vessels, and irritation in the arterial system, with inflammatory symptoms either partial or general, such as in Catarrh, Dysentery, Rheumatism, Fever. In this case, the deleterious effects will be, to use the language of mathematics, inversely as the force of circulation. This, however, will be once more considered, when we come to *Catarrh*.

6. When Heat suddenly succeeds to *cold*, the blood increased in volume is powerfully determined to the surface, where the extreme vessels being distended beyond their tone, inflammation follows, and we have as before either Catarrhs, Rheumatic Symptoms, or a Fever. In this case, the deleterious effects will be directly as the force of circulation.

7. The

7. The more intense the preceding *cold*, and the longer its continuance, the greater is the accumulation of irritability, and the more violent are the effects produced by sudden application of *heat*.

To make this *accumulation of irritability* more sensible, you need only handle snow, or expose yourself to the protracted stroke of a keen frosty blast, and then approach the fire, if the inflammation and the pain will permit you to draw nigh.

Should you darken one eye for five minutes only, and then remove the covering, you will not merely be sensible of increased splendour in that eye, but the stimulus of light will be exceedingly distressing. Or, should you retire from the glare of a meridian sun into a wide apartment, having only a glimmering of day, it will be a considerable time before you can distinguish objects at a distance; that is, before the sensibility of the retina is sufficiently restored to be affected by a weak impression. But, should you have continued for many hours in the dark, you will be able to read distinctly by the feeble light emitted from a glow worm: or, should you, after a long continuance in perfect darkness, be suddenly exposed to the full blaze of day, with such an accumulation of irritability you would be deprived of sight.

That you may with safety be sufficiently convinced of this, you need but to observe the pupils of a friend, and take notice to what extent the iris is dilated; then let him for a few minutes close his eyes and cover them, so as effectually to preclude the light. The instant he opens them again, if he looks towards a window, you will remark the iris contracting, and the pupils scarcely to be discerned; yet notwithstanding these avenues of light are so nearly closed, such is the degree of irritation, that he is unable to prevent his lids from shutting, and he feels himself impelled to turn away his eyes. In a short time, however, this accumulated irritability is exhausted, the pupils expand, and after a few minutes he can without distress look steadily towards the light.

From

From this accumulation of irritability it is, that vegetation in the spring is rapid and vigorous, in proportion to the length and severity of the preceding winter.

When therefore in the human frame, the change from *cold* to *heat* is sudden, the first injury is not derived from its exhausting influence, but from its stimulating power; which, with the stimulus of distention, meeting with accumulated irritability in the system, morbidly excites the larger arteries to action; and, as the consequently increasing distention of the extreme vessels communicates by sympathy fresh stimulus to them, action and reaction uninterruptedly proceed, and the injury, till some curative operation is commenced, must constantly increase.

September 6th. All his symptoms were much aggravated, and he was bent nearly double by the *gastrodynia flatulenta*. Pulse 110, full, hard, strong. Tongue very foul. The Eustachian tubes were closed, and deafness ensued.

He continued the saline mixture, with spermaceti for the cough, which was evidently *symptomatic* of irritation in the stomach.

With these medicines were added tartarized antimony, rhubarb, and contrayerva; which procured in the space of three days 17 copious evacuations by stool, with profuse sweating; *but the antimony did not act as an emetic.*

OBSERVATION II.

On the Introduction and the Use of Antimonials.

TARTARIZED *Antimony*, known commonly by the name of emetic tartar, was long, like James's Powder, considered to be a specific in the cure of Fevers. Basilius Valentinus, a Benedictine monk, was the first who recommended antimonial preparations to the attention of medical practitioners. This he did in a treatise, which he entitled *Currus triomphalis Antimonii*, and published at the close of the fourteenth century. Among the first in modern times, who introduced the use of antimony in fevers, was the famous Dr. LISLE, from whose grandchildren I received his preparation, of which the following is the form:

Boil a pound of hartshorn shavings six hours in eight quarts of water, then take them out, dry them and reduce them to a powder.

To

To a given quantity of this add an equal weight of crude antimony, putting the whole well mixed into a crucible. Keep it eight hours on a brisk fire, frequently stirring the mixture with a long thin iron: then reduce it to a very fine powder, and keep it in a bottle for use. The dose is twenty grains.

This nearly is the preparation adopted by the College of Physicians, and, as I apprehend, was the preparation used by Dr. JAMES himself, with this exception, that he undoubtedly at first combined with it calomel, for which he afterwards substituted tartar emetic in the proportion of one grain to nineteen of his powder. The preparation of this favourite medicine being kept a secret from the world, and sold as a specific, the medical practitioners in Edinburgh endeavoured to make an imitation; and for this purpose, deflagrated seven or eight parts of nitre with four of crude antimony. This was found an efficacious preparation, but its operation was uncertain.

Dr. Cullen first suggested the idea, that in cases of fever, emetic tartar in solution, administered in nauseating doses, would be a good substitute for James's Powder; that it would determine to the surface, relieve the spasm in the extreme vessels, and thereby remove the proximate cause of the disease. Such was the theory; but, in fact, as it was found efficacious in the cure of fever, it became almost universally adopted.

Subsequent to this, Dr. Huxham prepared his *antimonial wine*, of which the following is the form:

℞. Glass of antimony one ounce, infuse for six days in 24 ounces of Madeira wine, and filtrate.

What the glass of antimony communicates to the wine is not yet discovered, for it was observed by the practitioners in France, that a cup formed of this wonderful substance, after having communicated virtue to such a quantity of wine as proved an emetic to a whole regiment, being accurately weighed, had not lost a single grain, and the *perpetual pill* is so little changed in its operation on the stomach as to be transmissible from generation to generation.

Tartarized antimony, in small doses, combined with contrayerva, determines to the surface; combined with

rhubarb, its operation is more immediately confined to the bowels.

On the third day of the disease a clyster was administered, with a repetition of the tartarized antimony, antimonial wine and camphorated tincture of opium to promote the sweats. At the same time the Peruvian bark with serpentaria was given in considerable doses.

OBSERVATION III.

On the Peruvian Bark and Vegetable Astringents.

The nature and operations of the Peruvian bark should be rightly understood, that this powerful medicine may be properly applied. Like the bark of the oak, of the salix, and of the æschylus hippocastanum, it is antiseptic and it is tonic. Dr. Eveling, who says nothing of the English oak, places the *cinchona*, that is, the Peruvian bark, when compared with eight other powerful medicines, in point of bitterness, at the bottom of his scale. As an antiseptic it stands first ; as an astringent it comes after salix.

M. M. Coste and Willemet, who are equally silent on the virtues of the English oak, state the following barks as substitutes for the cinchona :

1. Salix Alba, or, White Willow.
2. Salix Fragilis, or, Crack Willow.
3. Salix triandria, or, Smooth Willow.

To be taken in doses of from one to two drams in powder. Had they been acquainted with the *Salix Caprea*, they would have given this the preference.

4. Æschylus hyppocastanum, or, Horse chesnut.

In doses of two drams.

5. Prunus pardus, or, Bird's cherry.

Dose one dram.

6. Prunus Spinosa, or, Blackthorn.

In doses of two drams for a decoction.

7. Fraxinus excelsior, or, Ash tree.
8. Geum urbanum, or, Avens.

Of which the root is recommended.

We have seen, that the powers to be exerted by the cinchona, and to be applied in medicines, are antiseptic

septic and astringent. Let us then consider the operation of the *English bark*, when applied as an antiseptic and astringent in the art of tanning, that we may distinctly comprehend its powers on the animal fibre even when deprived of life.

The tanner takes his hides, and having deprived them of their hair by lime, he puts them in a pit covered with water, and exposed to the influence of the sun and air. There we have every thing which can tend to promote the putrefactive ferment—air, heat, and moisture. How then does he preserve his hides from this process, which would be destructive of their texture? It is by the use of bark; the bark of our English oak, separated from the tree when it is full of sap. Here then we clearly see the antiseptic power of this bark.

The hides are continued in the pits for many months, where the fibres become more rigid and compact; and being at the same time somewhat shortened in their dimensions, the hide which was thin and flaccid becomes tough, strong, and thickened, but diminished a little in its length and breadth. This will give us an idea of the tonic power and astringency of bark; and I may add, that on the living fibre, these powers have been proved, and that the decoction of the oak bark has been given with efficacy equal to that of the cinchona in the cure of intermittents.

With regard to the *æschylus hippocastanum*, Dr. Cusson, of Montpellier, finding it equal in efficacy to the Peruvian bark, has not only administered it in the cure of intermittents, but for restoring tone to debilitated patients, and for stopping the progress of gangrene. In my practice among the poor, I confine myself to oak bark.

From what has been said the student will observe, that the *cinchona* should be administered freely in cases of debility, and where it is required as a powerful antiseptic.

The following day the bark was again ordered, with camphor, tincture of opium, and Hoffman's ether. By these medicines every symptom

symptom was *aggravated*, more especially a violent and distressing spasm in the cæcum, which had continued, with short intervals of respite, for two days, and for which these *antispasmodics* were administered.

OBSERVATION IV.

On the Use of Opium, Camphor, and Ether.

The nature and effects of *opium* have been too little understood. It may be used either as a cordial, reviving stimulant, or a powerful sedative, according to the manner and quantity in which it is administered.

As a stimulant, it stands at the head of all the stimuli; being of the same nature, but much more powerful than wine.

It is well known, that whilst Christians get drunk with wine, true Mussulmen, being forbid to touch the produce of the grape, get drunk with opium, which ranks foremost among the intoxicating powers.

It is equally known that wine quickens the pulse, raises the spirits, increases vigour, and gives more than common animation for the time; but no sooner are the fumes of the intoxicating drink exhausted, than the drunkard becomes weak, enervated, and depressed in spirits. Here we distinctly see the stimulant and the sedative power of wine; and the same may be observed of opium. But if wine be given in small quantities, and administered only as occasion may require; or, when the sedative power has succeeded to the stimulant, let it then be repeated as a generous cordial in cases of debility, and the good effects will be visible to every eye. The same precisely may be said of opium.

In larger doses opium nauseates and is cathartic; but wine, in sufficient quantity, acts first as an emetic.

Camphor has some of the same properties, being, when exhibited in small doses, diaphoretic, cordial, antispasmodic, and moderately soporific. In larger doses it is diuretic, cathartic, and emetic. In more considerable quantity it produces hickup, delirious raving, deep sleep, epileptic convulsions, death.

What

What has been said of *wine*, *opium*, and *camphor*, applies in its degree to *ether*, and to every substance which contains inflammable air, even the common articles of diet; insomuch, that after long fasting a person will be intoxicated by a small portion of animal food, and effectually destroyed by a full meal of meat.

From what has been said, it is evident, that in *Synocha* all these stimulants are contraindicated as most injurious; whereas, in *Typhus*, properly administered, they must produce the best effects, because in cases of debility alone they prove *anodyne*, *sedative*, *antispasmodic*, and *narcotic*.

When these stimulants had failed to give relief, *two glysters* were administered; which soon produced a copious evacuation, and removed the distressing spasm; but, as the fever was much increased by the bark, opium, camphor and ether; the next day, being the fifth of the disease, these were omitted, and in their place were substituted contrayerva, nitre, rhubarb, and tartarized antimony, to quench the fire which had been raised.

On the seventh day of the disease towards evening a critical sweat took place, which lasted 14 hours. The pulse sunk down to 80. But the tongue continued foul. The day following the decoction and tincture of the bark, with salt of wormwood draughts, and syrup of althea, were given every third hour; to which were added vitriolic acid, and compound tincture of lavender.

On the ninth day a profuse and oily sweat broke out, and continued for 12 hours. Powder and decoction of bark, with columbo root, rhubarb, and aromatic powder, were given every third hour, and repeated the succeeding days, with the addition of Virginian snake root.

During the operation of these medicines, *the bowels were gradually cleared*, and, in the same proportion, the tongue became moist and clean.

The fifth, the seventh, the ninth, and the eleventh days considerable remissions of fever were perceived. But on the FOURTEENTH DAY of the disease, the heat became moderate, the pulse weak, small, and frequent; the senses were impaired, and the prostration of strength was remarkably increased.

This change rapidly took place, after nine in the morning, precisely at the hour in which the cold chill had begun. From this time *light* became intolerable; but, with regard to sounds, fortunately, as the deafness, which took place on the first day of the disease, continued in some measure, they were not distressing.

The student must particularly notice the change which happens in such circumstances, not merely in the pulse and in the senses, but also

in

in the mind; because, *the temper* then becomes impatient of the least contradiction or delay.

During the progress of the disease, our patient had taken for nourishment, sago, with calves foot jelly, broth, and apples made into paste. In proportion as his bowels were evacuated, his appetite returned. But *now* he complained, that sago and jelly appeared to him like water poured into the ocean, without satisfying in the least degree a ravenous appetite, and craving for more substantial food.

Whilst, however, he was taking sago and jelly in considerable quantities, he laughed incessantly like one *hysterical*, and remarked, that, in the rapidity of its vibration, his diaphragm resembled the sails of a ship when, having missed her stays, they are fluttering in the wind. When, however, he had picked the two small pinions of a chicken, his appetite was satisfied, and he fell into a state of calm *repose*. Yet whilst sleep took possession of his limbs, he retained his consciousness, and was sensible of every thing that passed. Previous to his awaking from this state, he perceived spasmodic twitchings, first in his limbs, then in the trunk, and lastly in his stomach; after which he became perfectly awake, and instantly called with eagerness for food.

The occasional cause of these spasmodic twitchings will be explained when I proceed to hysteria.

He remarked, that on the first approach of synocha, and for some of the succeeding nights, he was distressed with the most frightful dreams. But *in proportion as the alimentary canal was cleansed*, his sleep was more refreshing and less disturbed, till at length he slept soundly and without a dream.

The appetite now became voracious, and, for want of some one to guide him, our patient eat two chickens, and drank nearly two bottles of Madeira, in the space of 24 hours. When he began to chew, such was his debility, that his under lip and cheeks were affected almost incessantly with spasms; in consequence of which, they were at every moment drawn between his teeth. But wine soon removed the spasms, and enabled him to eat without this inconvenience. Hence it was that the quantity was so much increased.

On the fifteenth and the two following days of the disease, the bark and serpentaria were continued as before, with opium in considerable doses.

About this time of the disease, he had a remarkable symptom, frequently observed and complained of by the sick themselves, but little noticed in the writings of medical practitioners.

Whenever he closed his eyes in the middle of the day, he seemed to see instantly a multitude of figures, some minute, and juvenile, dancing at a distance; others large, aged, hideous in their appearance, nigh at hand, and employed in making faces at him; but all vanishing as often as he opened his eyes again.

This continued for some days without any other symptom of *delirium*.

Here let us pause to make some observations.

OBSERVATION

OBSERVATION V.

On Light and Heat.

The design being now to strengthen, every thing which could debilitate or exhaust in any degree the vital energy, and thereby increase the irritability of the system, was to be removed.

Of all the debilitating powers, in cases of extreme irritability, none is more distressing than *light*. This is a matter of experience; and every one, who has passed through a nervous fever, can bear testimony to the propriety of this observation.

Such in this patient was the sensibility of the optic nerve, in consequence of extreme debility, that when his door was shut and his windows perfectly darkened, he could, merely by the light descending from a lofty chimney, discern a pin lying on the floor in the most distant corner of his room.

From this distressing sensibility it is, that people of irritable fibres have an inclination to exclude the light.

Poulterers, who never reason, and who are not therefore liable to be misguided by speculative systems, have discovered by experience, that the most expeditious way to *fatten poultry* is to keep them in the dark.

The connection between *light* and *heat* is too remarkable to escape the notice of those who are inhabitants of warm climates. Hence, to cool their apartments, they not only sprinkle water, but they carefully exclude the light.

It is not my intention to suggest the idea of identity between the elements of light and heat; although when reflected from a polished surface, they are governed by the same laws; nor, on the other hand, am I able to demonstrate the essential differences between them.

But certain it is, that in given circumstances heat is constantly in proportion to the light; and I have had occasion to remark in Spain, that by excluding light during the sultry heats of a meridian sun, they enjoy the most refreshing coolness. This I have particularly noticed in my travels, when I mentioned the spacious, yet dark

dark galleries, which run through the whole extent of the Jesuits' College at Salamanca.

Even on the lofty summits of the Alps, when the cooling process of evaporation is prevented, the same law subsists, and the heat is in proportion to the light. In confirmation of this truth, we have the beautiful experiments of M. de Saussure, who, having lined a close deal box with black cork, and for a door placed three plates of glass at the distance of an inch and an half from each other, exposed his thermometers to the sun on the top of Cramont, soon after noon, of the 16th of July; when that which he confined within the box, stood at 70 degrees; whilst one open, but hanging against black cork, was at 21 degrees; and a third, suspended freely in the air, was at 5 degrees.

In the case of our patient, to exclude the light was easy; but to diminish heat, it was found expedient, even at this advanced season of the year, that the room should receive ventilation from windows which opened to the north, and that those to the south should be covered externally with mats, which were sprinkled from time to time, with water to promote evaporation, and thereby to absorb the heat.

But as the heat still continued to distress, although it did not rise above 56 degrees of Fahrenheit's thermometer; the ceiling and the floor were sprinkled, from time to time, with vinegar, where it appeared, till *evaporation* had taken place, like the finest dew.

By these operations the thermometer in the patient's room stood commonly at 52 degrees. This effect might have been obtained by sprinkling the room with water; but there being evident symptoms of putridity, the preference was given to vinegar, as a powerful antiseptic. The instrument made use of for this purpose was the hearth brush; and the quantity of vinegar consumed was six gallons in twelve days.

OBSERVATION VI.

On Respiration and Vital Air.

Besides the beneficial effect of cold, another was derived from this operation, which was, to *oxygenate the air* and render it more fit for respiration. Every chemist knows, that the atmospheric air consists of two parts; of which one is called *vital*, because it contributes to life;

life; the other *azotic*, because, being respired by animals, it produces death. It is well known, that when these portions are separated, and confined within different jars, a mouse will live a considerable time in *one*, being lively, brisk, and active; whilst in the *other*, he soon languishes and dies. In the *vital air*, a candle burns with a most vivid flame, but in azotic air it is instantly extinguished. In *vital air* iron kindles like a match, and is melted with rapidity, exhibiting as it consumes a lustre scarcely inferior to the splendor of the midday sun. This part, therefore, as contributing to life and flame, is with the utmost propriety denominated VITAL AIR.

Vinegar contains this in abundance, and parts from it readily.

Being, therefore, sprinkled like dew upon the ceiling, the evaporation corrected that part of the air, which had been vitiated by the breathing of the patient, and rendered it again fit for respiration.

It moreover made respiration pleasant, relieved the oppression of his chest, and enabled him to breathe freely through the nostrils without the assistance of the mouth, which he could not do before the vinegar was sprinkled.

It greatly increased, at the same time, his appetite, and quickened his digestion.

Dr. INGENHOUSZ discovered by the eudiometer, that the atmosphere at Vienna contains a greater proportion of vital air than in Holland, and to this he attributes the remarkable increase of appetite felt by strangers on their arrival at Vienna. In some experiments tried upon himself, he had occasion to observe, that after inspiring vital air, his appetite increased, and he slept with greater tranquillity than usual, nor were these effects peculiar to himself, for all to whom he gave this air, had their appetite increased.

I have had frequent opportunities of remarking a kind of balance between *respiration* and *digestion*. In the case of our patient, it was too evident to escape the observation even of his nurses. When the stomach was oppressed, respiration laboured; and when the lungs were

plentifully supplied with vital air, the superabundant quantity of food no longer was a burthen.

I am happy to find my ideas on this subject confirmed, not only by Dr. THORNTON, to whom I first communicated them, but by a correspondence between two of the most ingenious medical practitioners and chemists of the age, Dr. WITHERING and Dr. BEDDOES. The former, writing to the latter, says, "The experiments you wish for on this subject have in part been made. The late Mr. Spalding, who did so much in improving and using the diving bell, was a man of nice observation, and had he not fallen a sacrifice to the negligence of drunken attendants, would have thrown much additional light upon more than one branch of science. He particularly informed me, that when he had eaten animal food, or drank fermented liquors, he consumed the air in the bell much faster, than when he lived upon vegetables, and drank only water. Many repeated trials had so convinced him of this, that he constantly abstained from the former diet whilst engagad in diving."

To this correspondence between the stomach and lungs, between respiration and digestion, the changes to be noticed in the appetite, according to circumstances of health and sickness, or the season of the year, may be perhaps attributed.

In the inflammatory fever, in warm climates, and during the sultry season, when we are overwhelmed with heat, we have little inclination for animal food; we covet vegetables, with acids, and acescent fruits: but in winter we have a strong desire for those substances, which abound with hydrogen, and have little propensity to take acescent food.

If the ideas I have ventured to suggest are agreeable to truth, the reason for this change of appetite will be easily explained.

The heat which is generated in the system appears to bear some proportion to the quantity of *oxygen air* absorbed in respiration by the blood. But animal food, and all the articles of diet, which abound with hydrogen, evidently

evidently contribute to increase the vital heat. Does it not therefore seem probable, that this may be by disposing the lungs to decompose a greater quantity of common air?

If vegetable diet, with acids and acescent fruits, cool the system; is it not from the same sympathy between the stomach and the lungs?

Thirst is subject to the same laws, being quenched sometimes, as in Synocha, by acids; whilst in other circumstances, as in cases of debility, it is satiated by wine and brandy.

As to those kinds of thirst, excited either by acrimony in the system, or by superabundant evacuations, they observe a different law, and simply call for diluents.

When animal food and wine have been received into the stomach, no sooner is the *digestive process* begun, even before any portion is introduced into the circulating fluids, than the action of the heart is increased, and the pulse is quickened. But the same effect is not observed from vegetables.

This might be attributed to a sympathy between the heart and stomach; but as I cannot imagine, in the case before us, any utility arising from such a consent of parts, I am rather inclined to suppose it may arise from the sympathy already stated between the stomach and the lungs, in which case the frequency of the pulse will follow as a necessary consequence of this increase of oxygen air by respiration.

OBSERVATION VII.

On Digestion.

Boerhaave, neither satisfied with the system of digestion in the human stomach by heat, as suggested by Galen, and adopted by his followers; nor yet better pleased with attributing this process to the vital energy of the soul residing in the stomach, as conceived by the fertile imagination of Van Helmont; invented a system of his own, in which he attributes the digestion of our food partly to fermentation, but principally to trituration, pressure,

pressure, and powerful quassation. He describes the rugæ of the stomach as grinding the more solid parts of the aliment; and, to assist in this process, he calls in the aid of its external coat, with the diaphragm, and the numerous muscles of the abdomen. Not satisfied with these, he takes into his account the violent pulsations of the subjacent aorta, with the vibrations of innumerable surrounding arteries, which he estimates at no less than three thousand six hundred pulsations in the hour.

This distinguished anatomist reasoned by analogy, and took particular notice of the ostrich, which he had observed to swallow pieces of iron and of glass, evidently for the purpose of triture, because the sound of grinding was perceptible to those who listened.

In the granivorous birds he had remarked, beside the crop, furnished with salivary glands to mollify their food, a gizzard, or second stomach, provided with strong muscles to triturate the grain; and the avidity with which they swallow gravel to assist the operation, had not escaped his notice.

Having examined the structure of a lobster, he saw at the mouth of the stomach a curious mechanism, three teeth, of which one, moved by a strong muscle, triturates the food against the other two. In the larger crawfish of the sea, he might have noticed a structure somewhat different, where, to answer the same intentions, instead of three teeth, we observe a pestle supplied with a strong muscle, and placed between two mortars.

This philosopher examined attentively the ruminating animals, such as the sheep and cow, in which he remarked, that the food, after having been conveyed into one stomach, is thrown up again to be triturated before it is returned into a second.

No wonder, then, that this great mechanic on the subject of digestion had mechanical ideas.

Succeeding physiologists were convinced, that the digestive process was conducted by fermentation only, and this they supposed to be promoted by heat and moisture, as most undoubtedly would happen, were it not for the presence

presence of a fluid whose property it is to prevent that process.

A true notion of digestion never occurred to human thought, till first Reaumur, then *John Hunter*, had tried experiments, and Dr. *Stevens* had rendered the subject more familiar to the mind, by his most judicious observations on the stone eater, when he visited the metropolis of Scotland.

One of the former, after having caused his dogs to swallow various kinds of food, both in a fresh and in a putrid state, opened their stomachs at different periods from the time of deglutition.

The latter confined the substances to be swallowed by the man within small silver spheres, which prevented trituration, and, being perforated, readily admitted the gastric juice; but, as the stomach could not be laid open, emetics, after a sufficient time had been allotted for the process of digestion, were employed to bring those spheres to light.

As the result of their experiments, these gentlemen conclude, that the gastric juice is the proper solvent of our food; and their inductions have been confirmed by the subsequent experiments of the Abbé Spalanzani.

It appears, then, that the teeth are to triturate the food, and that the salivary glands supply it with a peculiar fluid, whose property is, not merely to moisten it and render it fit for deglutition, but to prevent both the acetous and the putrefactive fermentation; beside which, the saliva is detergent, and acts as a moderate cathartic.

The *gastric juice* answers the same intention of impeding fermentation, insomuch, that a piece of putrid flesh, being thrown into the stomach of a dog, lost its putridity. But independent of this property, it has been proved to be a powerful solvent, both of animal and vegetable substances, more especially of the former, yet upon this condition, that they be first deprived of life.

The pancreatic juice supplies any occasional defect in the salivary glands, being perfectly similar in its nature to saliva: and it may be observed, that in proportion as the

the loaded stomach presses on *the spleen*, blood is emitted from that viscus to supply the pancreas.

The bile, which enters the duodenum with the pancreatic juice, is not only detergent and cathartic, but antiseptic also.

Such is the well known process of digestion: but we cannot leave the matter here.

The attentive observer may take notice, as already stated, that there is a certain balance between the quantity of vital air received into the lungs, and of food which can be digested in the stomach; and will see one reason, why cold air, every kind of exercise, even scating and sailing, increase the appetite; and why men, who are oppressed with food, pant for breath; and why, in a close room, when they are confined within the curtains of a bed, where the air is vitiated by passing frequently through their lungs, they open their mouths wide to breathe, and therefore why they snore.

I have had occasion to converse with miners in Cornwall, who had been almost deprived of life by mephitic air, and have been informed by them, that on reviving, they have constantly been seized with nausea, and that commonly the stomach has rejected its contents.

When John Hunter was at Belleisle, in the beginning of the winter, he conveyed worms and pieces of meat down the throats of lizards, when they were retiring into winter quarters, and when he opened them at different periods, he always found these substances entire and perfectly unchanged. Nothing, he adds, can shew more clearly, that the secretion of the gastric juice is increased in proportion to the call for nourishment, than what happened to admiral Biron and his associates, when they were shipwrecked on the western coast of South America. After these gallant officers had suffered months of hunger and fatigue, and had been reduced to skin and bone, they eat every one of them voraciously, both night and day, for months, yet an ever craving appetite evinced that they digested all their food.

OBSERVATION VIII.

On the Respiration of Hydrogen Air.

In cases of debility, unless the quantities of food exhibited are small, well chewed, and not given till the appetite is keen, flatulence will be the consequence; and where animal substances and fermented liquors constitute the principal portion of the aliment, inflammable air will be extricated and discharged in considerable quantities.

Supposing, then, the patient to be confined to bed, this, being twelve times lighter than atmospheric air, will constantly ascend, and, from the situation of the patient, will be inspired as it passes.

The effect of the hydrogen, that is, of inflammable air, as a sedative, when received into the lungs, is well known to modern chemists; and will be manifest to any one, who confines a mouse, only for a short period, in a jar replete with it; for he quickly dies.

Having made these observations, let us return to our patient.

On the eighteenth day of the disease, his friend Dr. Thornton, came from London to visit him.

Upon examination he perceived, that the pulse was feeble, rapid, fluttering; that the tongue was black and furred; the countenance dark and sunk; that there was much restlessness, and some delirium. He observed white specks in the fauces; that the room, notwithstanding the vinegar and ventilation, was offensive, and the breath extremely putrid. In this situation, the patient told him, "That he felt like a watch, when the chain is broke; that the wheels moved quick, but had only a short time to run."

Dr. Thornton saw very clearly, that, under the quartan type, no crisis was to be expected for three days.

In these distressing circumstances, he ordered the quantity of wine to be increased, as occasion might require, to a quart, or more if needful, in four and twenty hours; leaving a commission with the nurse, to give him a glass full whenever she perceived him sinking.

Instead of half a dram of bark, every three hours, which the patient had been taking, he ordered two scruples to be administered every two hours, with its proportion of the wine; and that, during the intervals, *food in different forms* should be freely given. Of these he thought the subsequent were the most agreeable, and least subject to putridity:

No. I.

Fresh buttermilk.

No.

No. II.

Take a pint of good buttermilk; leave it to be sour; then put on it a quart of warm new milk in a wooden bowl, in the bottom of which are holes large enough to transmit the whey, but not the buttermilk. In twelve hours a rich subacid curd of easy digestion will remain.

No. III.

Leave a quart of new milk three or four days in a bowl, till it becomes a jelly.

No. IV.

Put skim milk into a deep wooden vessel, which must have a peg at the bottom. Place this in a vessel of boiling water, and there leave it till the milk coagulates; then draw off the acid whey, restore the peg, and surround it once more with boiling water. At the end of twenty four hours, draw off more whey, and beat the curd with a wooden stick. It is then fit for use, and may be mixed with sugar.

No. V.

In a bason, or soup plate, containing half a pint of water moderately warm, put thirty or forty snails, previously stript of their shells and washed; there let them discharge their slime. To half a pint of this slime, add a quarter of a pint of hartshorn jelly, with the white of four eggs. Let these be beat up; then add one glass of Madeira wine or sherry, and the juice of half a lemon, with a little lemon peel and cinnamon.

No. VI.

Infuse oatmeal in a wooden vessel till it ferments, and begins to acquire some degree of acidity. Strain off the liquor from the oatmeal, and evaporate by boiling to the consistence of a jelly; this may be eaten mixed with white wine and sugar.

These with chicken panada and boiled mutton, tender, and full of juice, were the chief articles of diet.

OBSERVATION IX.

On Stimulants.

In regulating the quantity of stimulating medicines and food, in dividing these into small portions to be given at the distance of short periods, Dr. Thornton anticipated their sedative effect, and uniformly supported the vital powers. Thus the prudent gardener, under the guidance of his thermometer, supplies fuel to his stove, and preserves his hot house at a regular and certain temperature, without suffering the heat to be too much diminished, or violently and suddenly increased.

In

In the human frame, *the pulse* is this thermometer.

OBSERVATION X.

On the Pulse.

Without understanding the *pulse*, no one can be a good physician.

That the pulsation of the artery arises principally from the action of the heart is evident, because, as you increase the action of the latter, you increase in the same proportion the pulsation of the former.

But the action of the heart, and, therefore, the pulsation of the arteries, being caused by stimulus, bear proportion to the irritation, which again depends on, both the quantity of stimulus applied, and the degree of irritability in the system; so that by increasing either, you equally excite and quicken the action of the heart.

The stimulus of the blood bears proportion to its quantity, its velocity, and its degree of oxygenation, that is, to the quantity of oxygen which in a given time it can communicate to the irritable fibre.

Hence it is that patients, who breathe a vitiated air, have a sluggish pulse; whilst they, who either inspire air more copiously charged with the vital principle, or who from disease derive too much oxygen air from the atmosphere, have always a quick pulse.

The former, as well observed by Dr. BEDDOES, may be seen in scurvy; the latter in phthisis.

I have said, that the action of the heart depends on its irritability; but then it must be remembered, that irritability bears proportion to debility.

In making observations on the pulse we have to notice,

1. Its frequency.
2. Its strength.
3. Its hardness.
4. Its fulness.
5. Its regularity.

1. The *frequency* is governed not merely by the stimulus of the blood, and the irritability of the heart, but by the quantity of blood to be kept in motion.

All these circumstances must be considered. Thus in *Synocha* we have some degree of irritation to quicken the circulation; but as the vital stream is undiminished in quantity, the celerity is moderate, seldom exceeding 100 or 110: whereas in *Typhus*, with increased irritability of the arterial system and diminished quantity of blood, it rises to 150 or 200 pulsations in a minute.

In a state of health, in adults, we may reckon it from 60 to 70; but in hypochondriasis, it is often observed as low as 50, or even 40.

The irritability of the heart is diminished by age, by sleep, by opium, and by sympathy with the alimentary canal, when it is oppressed by viscid mucus or relaxed by grief.

Hence indolence and poverty of diet sink the pulse.

2. The *strength* depends on the powers of life; for where debility prevails it will be manifest in the arterial system by the weakness of the pulse.

3. The *hardness* of the pulse marks either inflammation in the coats of the arteries, or resistance in the capillaries, arising either from spasmodic stricture or from density of blood. Uncommon softness of the pulse denotes relaxation in the arteries, with penury of blood.

4. The *fulness* indicates the quantity of blood thrown out at each contraction of the heart, which is regulated by the degrees of irritability; for when this is morbidly increased the ventricles either contract before they are replenished, or from debility are unable to overcome the muscular action and elastic resistance of the arteries, and to send out a copious stream. Hence venous plethora prevails, and the arteries are small.

5. The *regularity* is principally governed by the same cause, and where the pulse, as in the progress of Typhus, of Hysteria, and of other diseases, fails in regularity, we must, independent of organic affections of the heart, attribute this to morbid irritability.

From what has been said we may understand, why in *Synocha* the pulse is full, hard, strong, but moderate in frequency; and why in *Typhus* it is small, weak, quick, and in the worst state of that disease irregular.

Hence

Hence also we may comprehend, why the rapid pulse in Typhus and Hysteria is rendered slower, as well as stronger, by animal food, wine, opium, and the Peruvian bark.

On Monday, the nineteenth day of the disease, towards evening, every bad symptom was increased. Singultus, with subsultus tendinum, came on, and whenever he awoke from sleep, it was with spasmodic twitchings, first of the lower extremities, afterwards of the whole body, followed by a short hecking cough.

These symptoms evidently arose from the stimulus of the gastric juice on the living fibres, when the digestion was completed, and the stomach was void of food; for they instantly ceased when he began to eat.

Tuesday, September the 24th, being the TWENTIETH DAY of the disease, at five in the morning the pulse was fluttering, and so rapid as not to be counted; and the patient feeling himself sinking into the arms of death, begged with eagerness for wine.

Two full glasses of Madeira were given him with good effect. At seven he began to sink again; no moisture was any where perceptible; and he was seized with vomiting; but warm wine and water soon gave relief.

At ten his countenance was sunk and black; yet his lower extremities were warm. His urine was *pale*, and its flow considerable. Plenty of Madeira wine was given; and his pulse by degrees became soft, though feeble, and not more than 80 in a minute.

At twelve *his hearing was perfectly restored*; light, from being more tolerable, ceased to be offensive; his tongue was clean; breathing free; skin moist; pulse 78, soft, full, regular. He *slept profoundly* and almost *incessantly*, excepting when a keen sense of hunger compelled him to ask for food.

During the day he took much Madeira wine, and nourishment, by which the pulse diminished in the *number*, but increased continually in the *strength* of its vibrations.

Wednesday 25th, HE WAS FREE FROM FEVER, and nothing now remained but hysteric affections.

Under Hysteria, when I shall proceed to treat of it, this case will be referred to; because *Typhus* and Hysteria throw a considerable light upon each other, such as may direct our practice in the treatment of them both.

SECTION III.

Of the Proximate Cause of Fever.

If it is now, as I presume, universally allowed, that neither lentor in the extreme vessels, nor morbific matter

ter in the system to be concocted and expelled, is the proximate cause of fever; what in the place of these shall we substitute as the foundation of rational indications and a successful practice?

Shall we borrow from our modern Hippocrates the idea of atony and spasm? With the utmost deference to his superior talents, I must beg leave to differ from him; and, without repeating the arguments, by which he has recommended his system to the attention of the world, I must observe, that fever continues after the spasm of the extreme vessels, as frequently appears by copious sweating, is relieved; whereas, when we seek a proximate cause, we must find something, which being once removed, the disorder ceases.

For the proximate cause of fever, therefore, I would assign the morbidly increased irritability of the heart and arteries; and this with either strong marks of vascular excitement, or with symptoms of nervous weakness and distress: the former constituting Synocha, and the latter Typhus. In *Synocha* we have, indeed, a frequent pulse, but it is full, strong, and hard; whereas in *Typhus* the pulse is quick, small, and feeble; whilst, at the same time, the disease is attended with every symptom of debility.

If it be inquired, what produces the increased irritability of the heart and arteries in fever, I shall not hesitate to offer another conjecture to the world; happy, however, in not being the first publicly to hazard that opinion, although it has been deeply impressed upon my mind for thirty years. It appears to me, that the increased irritability of the heart and arteries in fever arises from consent of parts and the stimulus of acrid bile, indigested food, viscid and corrupted mucus, worms, virus, and other stimuli in *the stomach* and *first passages;* because in proportion as these have been removed, fever has been relieved, either ceasing altogether, or being made to intermit, or at least rendered mild and tractable, whilst it has proceeded in its destined course.

Should we in Typhus suffer putrescent colluvies to stagnate in the alimentary canal, we shall have, then, no longer what is called a nervous, but a putrid fever.

I am ready to allow with Dr. CULLEN, that for the occasional cause of fever, we must look to sedative powers, such as contagion, specific effluvia, putrid exhalations, driving fogs, and stagnant vapors, fear, and the vicissitudes of heat and cold.

Debility, whether arising from heat, intemperance, fatigue, previous disorders, inanition, the operation of medicine, or any other source, may be justly considered as the predisponent cause. But, as for the proximate cause, no other, in my opinion, can with justice be assigned, than the one which I have already stated.

Dr. CULLEN in his Materia Medica has a most interesting observation.

He remarks, that some kinds of fish, such as eels, salmon, herrings, and, in peculiar constitutions, muscles, or even lobsters, independent of their prutescency, give a singular irritation to the system, and, during their digestion in the stomach, occasion a considerable efflorescence on the skin; sometimes partial, at other times over the whole body; sometimes with a considerable febrile disorder, but at other times with very little. It is seldom of long duration, and commonly ceases when the matter is entirely digested and passed out of the stomach. He adds: "I have had it in some cases immediately removed by bringing up the contents of the stomach; by which it appears, that this phænomenon depends upon an operation exerted in the stomach, and not upon any matters being mixed with the blood."

Whosoever will take the pains to consult Sir John Pringle, on the diseases of the army, will find my ideas respecting the *alimentary canal* confirmed; and may observe, moreover, a connection clearly marked, such as can arise only from identity of cause, between flux and fever; for, it appears, that all who, in similar circumstances, were attacked by diarrhœa, escaped the autumnal fever of the camp, and that in cases of fever, whenever a diarrhœa supervened, the fever vanished, frequently, however, to return when the diarrhœa ceased.

In addition to this remark I must observe, that any one, who is conversant with practical writers, may collect

lect from their united observations, that fever, whatsoever type it may assume, depends upon one common cause; because he will remark, that the various species run into each other. The continued are apt to remit and intermit; whilst intermittents, by bad management, become continued fever.

The first effect of viscid mucus in the alimentary canal is sedative, as appears by the slow and feeble pulse, languor and depression of spirits, coldness of the extremities, costiveness and deficiency of perspiration, which it constantly produces.

But as the retention of perspirable matter proves a burthen to the system, therefore the first effort of nature to relieve herself appears to be, by exciting the action of the kidneys, and limpid urine flows in remarkable abundance.

Most of the enumerated symptoms may continue for years; as in the case of hypochondriasis; or, being suffered to increase, the disease may terminate in melancholia.

The sedative effects of bile, when it is absorbed into the system, are still more remarkable, as appears in all the functions, natural, animal, and vital. The pulse is languid in the extreme; the spirits are depressed; drowsiness and prostration of strength ensue; the bowels are constipated; the urine is deficient; and the perspiration is obstructed.

Nature, in such circumstances, appears to be retreating before some powerful invader; but when the sedative powers are violent and suddenly applied, she makes strong efforts to relieve herself, and the gates of this tumultuous city are barred, whilst she is assembling all her forces to expel the enemy; for, during the paroxysm of fever, the pores are strongly closed, whilst the vital energy is evidently concentrated and collected in the heart, which propels the blood with renewed vigor through the arterial system in its whole extent.

In the case of intermittents a copious sweat succeeds. But as the effort is not confined to the external surface of the body; if, at the same time, the mucous follicles, with

with the exhaling arteries, pour forth their copious streams in the intestinal canal, a diarrhœa follows, and this frequently puts a period to the original disease.

When nature fails in this first effort, she reposes, according to her usual practice in other cases, to recruit her strength, and we have either 1. a Quotidian, 2. a Tertian, or 3. a Quartan, according to the degree of vigour in the system.

These may degenerate and assume the continued form; yet, when thus modified, they retain somewhat of their original type, as marked by their quotidian, tertian, or quartan exacerbations, which are only renewed efforts to produce a termination of the fever.

Thus commonly during the first week they conform to the quotidian, during the second to the tertian, and after that to the quartan periods; at first with symptoms of strong vascular excitements, and at last with evident tokens of extreme debility. Such is the progress of *Synocha*.

But, when the vital energy is weak, the efforts of nature will be feeble, and the patient will complain of frequent chills with flushings of heat; listlessness; fatigue; heaviness and dejection of spirits; disrelish of food; nausea; restlessness; anxiety; and disturbed sleep: the pulse will be quick, weak, unequal, fluttering; the urine pale or limpid; and the thirst will be moderate. These symptoms may creep on for many days, but will make way for those that are more urgent, when faintness, starting of the tendons, stupor, delirium, with distressing marks of speedy dissolution, leave no room to doubt respecting the diagnosis; for the fever is evidently Typhus.

In fever we constantly inspect the tongue as a faithful index of the alimentary canal. When that is dry and covered thick with mucus, the attendant deficiency of appetite clearly indicates a similar condition of the stomach.

When the tongue becomes clean and moist; when the saliva flows freely and is abundant, a keen appetite returns, and sufficiently evinces, that the gastric juice is

is neither deficient in itself, nor prevented by a viscid mucus from exerting its stimulating power on the stomach.

SECTION IV.

Indications of Cure in Synocha.

From what has been said, I trust it will be clear to the student, that to prevent or to cure a *Synocha*, his *first intention* must be to cleanse the alimentary canal; and, from the experience of more than thirty years, I can venture to assure him, that by this means the fire may be quickly extinguished in the first passages before it has had time to spread; and the fever may be either stifled in its birth, shortened in its duration, or at least, in its type, rendered more benign.

For this purpose, agreeable to nature's first effort for relief, an emetic, or repeated emetics of ipecacuanha, gr. 5—10, with tartarized antimony one grain, should be administered with the utmost expedition; after which a mercurial pill of calomel, three grains, with soap, should be thrown into the bowels at night, to be carried off by rhubarb and senna the succeeding morning, or one grain of calomel, with from three to seven grains of antimonial powder, may be ordered every evening.

Having cleansed the alimentary canal, the bark may be safely given in sufficient quantity to answer the *second intention*, which is to restore the tone, and to invigorate the system. Without this, illdigested, acrid, and irritating matters, would be again collected and prove the fomes of fresh fever. If the stomach will bear it, a dram of the Peruvian bark in substance may be given every three hours, or the following:

℞ Pulv. Cort. Per. ℈j.
Tinct. Cort. Per. ʒj.
Decoct. Cort. Peruv. ℥iss.
Syr. simp. ʒj. m. ft. haust. ℥ quaque hora sumendus.

That is,

Powder of bark one scruple, tincture of bark one dram, and decoction

tion of bark one ounce and half, with simple syrup one dram; to be taken every three hours. Should the bark affect the bowels, eight or ten drops of laudanum may be added to each dose.

Should you, however, fail in this first attempt, you must still proceed to cleanse by calomel and antimonials, that you may speedily prepare the bowels for the reception of Peruvian bark; or the subsequent may be occasionally used with good effect:

℞ Kali Tartarisat. ʒiss.
Infus. Sen. ℥iss.
Tinct. Sen. ʒij.
Mann. ʒj. m. f. h. m. s.

That is,

Tartarized kali a dram and half, infusion of senna an ounce and half, tincture of senna two drams, manna one dram; mix for a dose to be taken in the morning.

Should you neglect to cleanse, and thereby suffer a *Synocha* to continue, and to exhaust the powers of life, I know not how you are to avoid a *Typhus;* because the fever, which in the beginning observes clearly the *quotidian* type, with strong action in the vascular system, passing through the *tertian*, may assume after the eleventh day, if not more rapidly, the *quartan* form, with its usual symptoms of debility.

Stationed in a country parish, my practice has been confined chiefly to the rigid fibre of laborious peasants; and, among those of them, who made an early application for assistance, I never suffered fever to continue.

I have one aged servant, who in the thirty years, during which he has lived with me, has frequently been attacked by fever. I have often found him in the chimney corner, with a dry and parched skin; foul tongue; pulse frequent, hard, and strong; no appetite; thirsty; costive: yet the very first emetic, discharging a quantity of bile, of phlegm, and of indigested food, assisted by a mercurial pill at night, and followed by rhubarb with senna in the morning, has sent him after the second day to work, without even the use of the Peruvian bark.

Dr. Rush, of Philadelphia, in the yellow fever of 1793, gave every day, whilst the fever lasted, Calomel, gr. 10—15, with Jalap, gr. 10, to procure five or six

stools. By this evacuation the low pulse was raised, and the strong pulse reduced, and the patients were so much strengthened, that some who had staggered to the close-stool, walked back again to their bed; the febrile paroxysm was abated; vomiting was checked, and sweating was produced. Dr. Rush, by this practice, cured 99 out of 100 who applied to him at the commencement of the fever.

A similar practice proved equally successful at the Havannah, under the care of M. Holliday, in the putrid bilious fever of that inhospitable climate. He gave Glauber's salt and manna in such doses as to procure plentiful evacuation; and when he had thereby got the fever to remit, he poured in the bark and snake root.

In case of costiveness and accumulation of fæces in the last of the intestines, a clyster gives relief, without the weakness commonly induced by the operation of more powerful cathartics.

During the progress of a Synocha, animal food is inadmissible; spices, spirits, and fermented liquors, must be forbid. Ripe fruits and vegetables may be freely used, and the craving for subacid liquors must be indulged. Lemonade is good: the common saline draught is excellent. It is composed of lemon juice half an ounce, salt of wormwood one scruple, nutmeg water and simple syrup of each one dram, with two or three ounces of distilled water. This may be taken every three or four hours, and in the intervals vinegar and water with honey may be used.

When *heat* is accumulated in the system either by fever, by strong exercise, or by a scorching sun, nature cries aloud for acids; and to those who have turned their minds to chemistry, the reason for this strong desire is obvious.

They know that *animal heat* originates in the decomposition of vital air, when received into the lungs; and they observe, that the quantity decomposed and vitiated, or, in other words, the generation of heat, bears direct proportion, as before explained, to the quantity of combustible

bustible matter, whether animal or vegetable, whether sugar, oil, or spirit, received into the stomach.

They observe likewise, that acids received into the stomach check and restrain the generation of heat; or, in other words, that, when the system is saturated with *oxygen*, less vital air is decomposed by the lungs, and consequently less heat is generated.

On this subject the student must recollect what I have said on *respiration*, and particularly the experience of the celebrated diver Mr. Spalding.

It is upon these principles, that the reapers in the south of Spain covet their *gaspacho*, composed of bread, oil, and vinegar: the two first articles for nutriment, and the latter to moderate the heat.

On the same principles, obedient to the voice of nature, during the sultry heats of summer, we equally desire our gazpacho, composed of lettuce, oil, and vinegar.

Agreeable to this strong desire we may remark, that in warm climates, and in summer, the acescent fruits abound, but in the autumn we have chiefly those which produce oil and sugar.

Should delirium supervene in Synocha, attended by strong pulse, inflamed eyes, with fulness and flushing of the countenance six or eight leeches must be applied to the temples, and the legs must be put into a warm bath, heated to 96 or 98 degrees of Fahrenheit's thermometer. This will make a derivation, and with plentiful evacuation from the temples, will relieve the affection of the head.

When I was lately at Bath, my old friend and fellow student, Dr. Fothergill, communicated to me his method of treatment in cases of *Synocha*, and, from my high estimation of his experience and abilities, I shall be inclined to adopt his practice.

The medicine on which he places his principal dependance is Clutton's Febrifuge.

It is thus prepared:

Take oil of sulphur by the bell, with oil of vitriol rectified, and sea salt, of each one ounce; rectified spirit of wine three ounces; digest for a month, then distil to dryness.

To

To half a pound of this spirit add angelica root, serpentaria, and cardamoms, of each a dram and a half, for a febrifuge tincture.

Spring water acidulated with this, and sweetened to the taste, makes a cooling diaphoretic and diuretic julep, of which the patient must drink five or six pints in the four and twenty hours. Clutton, who made no secret of the composition, assures us, that a recent fever is cured by it commonly in two days. If not given early in the disease, he joined with it some antimonial.

SECTION V.

Indications of Cure in Typhus.

In Typhus the intention must be,

1. *To cleanse the first passages,*
2. *To support the powers of life,*

and 3. *To obviate any tendency to putrefaction in the system.*

The first of these indications is, I trust, deducible from what has already been delivered; but the importance of the subject will be my justification, if, in its support, I avail myself of an opinion delivered by one of the ablest practitioners in Ireland.

Professor Macbride, of Dublin, has well observed, that the most common source of disturbance in the nervous system is acrid and offensive matter in the alimentary canal, either in the stomach or flexure of the duodenum.

The propriety of this observation must be obvious to every one, who in Typhus, whether it observe simply the nervous, or assume the putrid form, pays attention to the foul tongue, the bitter taste, the defective appetite, attended by nausea and anxiety. But it will be more evident when he remarks, that in proportion as the first passages are cleared, these symptoms, with all the other distressing and nervous affections, are relieved.

Should no symptoms of putridity appear, *Typhus* will be a nervous fever: but should putrescent sordes continue in the bowels, it will certainly become a *putrid fever.*

The

The principal cause of irritation is in the alimentary canal.

Impressed with this idea, the young practitioner will see the necessity of cleansing the first passages by emetics; and although to give drastic purges would be rash in the extreme, and perfectly inconsistent with the principal intention, yet he will once a day procure a stool, either by the decoctum tamarindorum cum senna, or by such gentle cathartics as prudence may suggest. The design is merely to evacuate putrescent sordes, and thereby to strengthen, because these speedily induce extreme debility; but, at the same time, it is well known, that nothing, in nervous diseases, consumes the vital powers more effectually than strong cathartics.

In the beginning of a Typhus, or at a later period, if the pulse is tolerably firm, my friend Dr. Nankivell does not hesitate to order,

℞ Pulv. Glycyrrhiz, gr. iv.
Pulv. Antimonial. gr. vij.
Calomel, gr. i. m. f. pulv. h. q^{a} vesp. sumen.

This he occasionally repeats if the pulse will warrant it. This perfectly agrees in principle with the practice of Mr. Holliday and of Dr. Rush, as stated in the preceding section.

The decoction of tamarinds with senna is thus prepared:

Take tamarinds six drams; crystals of tartar two drams; water a pint and an half. Boil these to one pint.
In this decoction, infuse for twelve hours one dram of senna; strain off the liquor, and add syrup of violets one ounce.

This may be taken for one dose, and tincture of rhubarb may be occasionally joined with it.

Should there appear, by the fulness of the lower belly, to be a congestion of fæces in the last of the intestines, a clyster may be injected to advantage.

This may be composed of milk with some oil, sugar, and salt.

The second indication is *to support the powers of life*, always remembering, that debility and irritability are as intimately connected, as the cause with its effect. When, during the German war, the French were shut up in Prague

Prague by the Austrians, they suffered by a putrid fever, for which their physicians bled them freely. The consequence was such as we may readily imagine, for they lost from 80 to 100 every day. To support the powers of life, the chief dependance will be on pure air, a generous diet, port wine, and the Peruvian bark.

The bark must be administered in such doses as the stomach will endure; not once, nor yet eight times, in the four and twenty hours; because, thus given, the needful quantity might overload the stomach, and produce a nausea.

When taken every second hour, the dose may be reduced. The bark may be combined with antimonials, aromatics, opium, as occasion may require.

℞ Pulv. Cort. Per. rub. ℥iss.
Pulv. R. Serpent. virg. ℥ss.
Coq. ex aq. pur. q. s. ad Colat. ℔j.
℞ Hujusce Decocti, ℥iss.
Tinct. Cort. Peruv. ℥ij.
Tinct. Opii, gtt. 15.
Syr. Cort. Aurant. ℥j.
Sp. Ammon. Comp. gtt. 20.
Confect. Damocrat. gr. 15. m. f. h. 6ª q. h. s. In horis intermediis capiat æger cochl. iv. seq. mist.
℞ Camphor. gr. 16.
Mucil. gum Arab. ℥ss.
Tere peropt. & adde Decoct. com. Cor. Per. ℥vj.
Tinct Cort. Per. ℥j.
Sp. Ammon. comp. ℥iss.
Syr. Cort. Aurant. ℥ss. m. f. mist.

The student should remember, that according to the experiments of Drs. Hunter and Stevens, confirmed by the experiments of Spalanzani, animal substances are digested more readily than vegetables.

That the latter are less nutritious than the former, must be evident to every one, who considers the debility of those who are confined to vegtable diet, when compared with the strength of those who have plenty of animal food.

Whatever may be the articles of diet, they should be administered frequently, in small quantities, to be increased as the appetite requires and the stomach can digest. It may consist either of butcher's meat, such as beef

beef and mutton, of eggs, of milk, or of the compositions already mentioned, as being least subject to putrefaction, or of broth made exceedingly rich and very savory, with pepper, salt, and potherbs. The meat should be well chewed to increase the quantity of saliva. By way of change, half a pint of good milk, with a large spoonful of brandy, and some sugar, may be interposed. The wine to be administered should be at all events sufficient to maintain the vital energy.

This must be determined by the pulse. Should the pulse be rapid, weak, and fluttering, the quantity must be increased, but commonly a wine glass full every hour will be sufficient.

The student will observe, that in proportion as he throws in a proper quantity of nutriment, with wine and bark, the pulsations will diminish in number, whilst they increase in strength.

The salutary effects of *vital air* received into the lungs have been already noticed, and the subject will be resumed hereafter.

Delirium in Typhus must be considered as a symptom of debility; for it must not be confounded with the delirium of a Synocha, from which it differs, as far as the east is from the west.

The distinction is of the last importance, because it leads to practice, which, if erroneous, must be fatal.

In the delirium of Synocha we have the pulse full, strong, hard; the countenance flushed; the cheeks red; the eyes inflamed.

In the *delirium* of *Typhus* we have the small, quick, feeble, fluttering pulse; the countenance sunk; and the eyes either stupid and vacant, or moist and quick in motion; with other symptoms of debility and irritability, such as cold sweats, flow of tears, purging, plentiful discharge of urine, trembling and twitching of the tendons, coldness of the extremities, and, towards the closing of the scene, insensibility, with involuntary evacuations by urine and by stool.

To relieve the *delirium* of Typhus, the legs must be fomented for many hours with flannel dipt in hot water,

and

and renewed every half hour; or, which is preferable, let the legs be bathed every hour, for ten or fifteen minutes at a time, in water heated to 94 degrees of Fahrenheit's thermometor, and repeated till sleep comes on.

Should this fail to give relief, recourse must be had to wine, brandy, camphor, opium, with this precaution, that if there be symptoms of foulness in the first passages, these cordial stimulants must, at all events, be preceded by five or six grains of James's powder, or some of the antimonial calces, which must be repeated every four hours, as occasion may require.

If the cordial stimulants relieve the head, strengthen the pulse, lessen the number of vibrations, diminish heat, remove thirst, and bring on a gentle moisture on the skin; the student will be satisfied, that he has made no mistake in his diagnosis, and will be encouraged to proceed.

Sometimes it is expedient to unite antimony with the opium and camphor as in this form:

℞ Tinct. Thebaic. gtt. 40.
Mistura camphorat. ℥j.
Vin. Antimon. gtt. 20. m.
p. r. n. s.

That is,

Take Thebaic tincture forty drops, camphorated mixture one ounce, antimonial wine twenty drops, for one dose, to be repeated as occasion may require.

The third and last indication is, *to obviate any tendency to putrefaction in the system.*

To fulfil this intention, the student, reflecting that the alimentary canal is the storehouse of putrefaction, should, under the cautions and in the way suggested, evacuate the bowels. But as this cannot be always performed with sufficient safety, it will be necessary to restrain the putrefactive process.

In a late publication of Dr. Beddoes, we have a relation, transmitted to him by the Rev. Edmund Cartwright, of most astonishing cures in putrid fevers accomplished by yeast.

The patients, from being reduced to the last extremity, were in four and twenty hours so far restored to health,

health, as to leave not merely their beds, but the house also, and to pursue their usual occupations.

He gave two large spoonfuls of *yest* in three hours, interposing bark, wine, and nutriment. In ten minutes from taking the yest, he perceived an alteration for the better in the pulse, which became more composed and regular. The operation of the yest, like that of the bark, was evidently to check the progress of putrid fermentation in the alimentary canal, which is most undoubtedly the fomes of the fever. Mr. Cartwright, on whose veracity we may place the most implicit confidence, assures us that it never failed with him.

No sooner had Dr. THORNTON, who inherits the active and benevolent temper of his father, the celebrated BONNELL THORNTON, perused the extraordinary narrative of the Rev. Mr. CARTWRIGHT, on the efficacy of yest, than he anxiously waited for an opportunity of trying its virtues; especially as its operation seemed to be, by imparting *fixed air* immediately upon its entering the warm stomach.

One day, by accident, as he went past a shop in Tottenham court Road, he heard the screams of a mother, who was agonized on seeing her child expire. These screams renewed the struggles of the child, and the nurse who attended, threatened to take away at this moment the child, that it might die in quiet. Dr. THORNTON got down immediately some tartar emetic, which quickly acted as a vomit; and after the operation was over he gave rhubarb, which cleared the intestines; he then ordered the child every two hours *yest* and *water*, with *wine* and *bark*, and in three days the dying child was up and well. This practice he continues with remarkable success.

The food, with the same intention of restraining the putrefactive process, should be chiefly of the *acescent kind;* yet, that it may contain a sufficient quantity of nutriment, and, at the same time, may have little tendency to flatulence, it should be taken from the animal kingdom. Milk, therefore, in its various forms, alternating with the snail mixture, as before mentioned in

the case of bilious autumnal fever, will be most desirable.

Should, notwithstanding, a colliquative diarrhœa intervene, with an aggravation of the symptoms, this must be restrained, by wine, spices, opium, and Angustura bark, either separately used, or united in the following form:

℞ Infus. Cort. Angustur. ℥vj.
Tinct. ejusdem. ℥ss.
Pulv. ejusdem, ℈j.
Tinct. Opii. gtt. 20.
Tinct. Lavend. Comp. gtt. 40. m.
c. Co. 3. 0. 4 h.

That is,

Take infusion of Angustura bark six ounces, tincture of the same half an ounce, powder of the same one scruple, tinctures of opium twenty drops, and of lavender forty. Mix, and give three spoonsful for a dose, to be repeated every four hours.

When nurses or medical practitioners perceive, by shivering and sickness, that they have taken the infection of Typhus, they should, without loss of time, assist the efforts of nature to relieve herself, and clear the stomach by emetics, not satisfied with one, nor even two, if they are determined to run no hazard of the fever.

Three hours may be interposed between the exhibitions. The emetic, as used and recommended by Dr. Saunders in this case, may be five or six grains of ipecacuanha with one of tartarized antimony.

When the infection is thus resisted at the threshold, its ravages in the system are effectually prevented, for no fever forms: but even when it is formed, its progress may be stopped, or its symptoms, by the practice I have recommended, may become so mild, that none but the most discerning eye shall be able to recognize its presence. When the peasants in Bohemia, after three bad harvests, had suffered the extremity of famine, they came in multitudes to Vienna, where they died in the hospitals of a putrid malignant fever. Here my venerable friend Dr. Ingenhousz attending them, took the infection. His case, which he obligingly communicated to me, was so remarkable, that I shall here relate it, as he

he himself described it in a letter to a friend. Behold, says he, the practice by which I preserved myself and others. Having rashly exposed myself to the contagion of a most infectious fever, I was seized in the middle of the night with cold shivering, pain in the head and loins, nausea, pulse tremulous and so frequent, that I could not count its vibrations. The tongue rough, dry, and parched, so that I could scarcely articulate my words. When my servant came to attend me in the morning, he was terrified by the paleness of my countenance and by my ghastly looks. I made him instantly dissolve twenty grains of tartarized antimony in six ounces of lemonade, and of this I took a spoonful every four minutes till vomiting came on. I then repeated the dose once or twice, that I might clear my stomach from every kind of filth. A purging succeeded to the vomiting, and the discharge was copious. The fæces were exceedingly offensive; but in proportion as the bowels were evacuated, every symptom was relieved, and a sweat succeeded, which continued for eight and forty hours. When the sweating and the purging ceased, I was free from fever, and soon recruited the strength which I had lost.

SECTION VI.

Of the Plague.

I MIGHT now proceed to the consideration of *intermittents;* but I choose rather to say something in this place on *pestilential fever*, that I may connect it more immediately with *Typhus*, of which it is undoubtedly a species.

Following the footsteps of my master, I placed *Pestis* in my nosology under the order EXANTHEMATA, of the class PYREXIÆ, with the subsequent description.

PESTIS.

The *Plague.*—Typhus, contagious in the extreme; prostration of strength; buboes and carbuncles; petechiæ; hæmorhage and colliquative diarrhœa.

Such

Such are the symptoms.

Dr. Guthrie, of Petersburgh, in his communications with Dr. Duncan, has favoured us with a clear and distinct idea of this disease, transmitted to him by Baron Ash, Physician General to the army of Moldavia and Walachia, A. D. 1772, in the Turkish war.

The first symptoms are a dull pain in the head, with shivering and universal debility; a bitter taste; nausea; a heavy inflamed eye; a dejected countenance; and a white foul tongue.

These are followed by vomiting, and by buboes in the inguinal, subaxillary, or parotid glands. To these symptoms succeed livid coloured carbuncles in different parts of the body, delirium, with small quick pulse, convulsions, death.

The ingenious Dr. Gardiner says, that in the opinion of Dr. Mackenzie, who lived eight years at Smyrna, our jail fever is the same with the common endemic pestilential fever of Constantinople, which, when rising to a great height, and when to the ordinary symptoms are joined buboes and carbuncles, is called the plague. In support of this opinion, Dr. George Fordyce, whose superior knowledge and accuracy of distinction merit our attention, has remarked, that the plague and malignant fever have the symptoms of the first stage violent; such as, langour, coldness, trembling, pain in the back, horripilatio, paleness, dryness of the tongue, thirst, transparent urine, costiveness, small pulse sometimes intermitting, delirium, anxiety, quick laborious respiration, rigor, horror, nausea, vomiting.

Dr. Gardiner thinks, and I perfectly agree with him, that contagion, whether marsh or human, is taken by the saliva into the stomach, and may be instantly ejected by emetics. The experience of numberless practitioners confirms this idea.

Agreeable to this, Baron Ash and the most successful practitioners in *pestilential fever* begin their operations by cleansing the alimentary canal.

The following is their plan of cure:

1. They administer *emetics*. And for this purpose they

they prescribe, ipecacuanha half a dram, tartarized antimony one grain, with one scruple of vitriolated tartar, for a dose. This emetic they work off with acidulated drinks; and should the nausea with bitter taste remain after the administration of the first emetic, they give a second, a third, or even a fourth, in the space of twelve hours.

And it is highly worthy of our notice, as applying equally to Typhus, that emetics are not subject to the same objection as brisk purges, which a man in the plague is unable to support. When the infected have dropped down suddenly, as if shot with a musket ball, they have been perfectly restored by one emetic, and returned to duty within four and twenty hours from the first stroke of the infection.

With this practice Giovanelli, as we are informed by Mr. Howard, perfectly agrees.

2. The Russian physicians, having cleared the stomach, order the following powder to be taken every morning: Rhubarb and flowers of sulphur of each one scruple, ipecacuanha three grains. In case of costiveness they prescribe, by way of *clyster*, a decoction of camomile flowers with vinegar; then, every hour, they give the following mixture: Camphor two grains, nitre five grains.

3. These are followed in two days by a mixture, of the Peruvian bark one ounce, and flowers of sulphur two drams; of which the patient takes two scruples every second hour.

4. They administer acidulated drinks, and diffuse acetous vapour in a well ventilated chamber.

Dr. Guthrie concludes his account by a remark, that a man may be in perfect health when he goes to rest, and the next morning the nervous system may be in such a state of debility, that he can scarcely answer the questions of his physician. Hope and confidence, he adds, are the most powerful preservatives from the infection of the plague.

SECTION

SECTION VII.

Of Puerperal Fever.

Dr. Cullen has been thought deficient for not having mentioned Puerperal Fever as a distinct species of *Febris Continua;* but, in his vindication, we may be permitted to observe, that the disease in question must, through its various forms and progress, be reduced either to *Synocha*, to *Typhus*, or to the order of Phlegmasiæ.

From the works of the most eminent practitioners it appears, that of puerperal fever we may trace varieties dependant on the occasional cause; and to this, particular attention must be paid.

The occasional cause may be,

1. *Infection.*—This has been distinctly traced in hospitals, and has been prevented by cleansing the wards wherein it had appeared.

2. *Inflammation of the omentum*, injured, as supposed, by pressure from the gravid uterus.—This inflammation may, however, be an effect, and not the cause; although, while present, it requires particular attention. That in reality it is so, I am inclined to think, because in thirty years I have never met with it among my parishioners.

3. *Suppression of the lochia.*

The fever usually begins with inflammatory symptoms; but it very soon terminates in Typhus.

The indications of cure are,

1. *To cleanse the alimentary canal.*

2. *To restore the lochia.*

3. *To support the powers of life in the progress of this fever.*

The first intention may be answered by emetics and cathartics, which must be used till the first passages are clear. The second by emmenagogues.

The most successful practitioner I ever met with in this fever was the late Mr. Jenny, of Truro in Cornwall, who was not afraid to restore the lochia even by aloetic preparations.

These

These certainly stimulate the rectum, and act powerfully by sympathy on the vessels of the uterus. But as nature is, with certain intermissions and intervals of repose, constant in her efforts to relieve herself; when the alimentary canal is cleared, she usually effects herself a restoration of this needful evacuation. Should, however, her strength fail, and her efforts therefore be defeated, we must proceed to our third intention.

The third intention may be answered by the Peruvian bark, with wine; and in the last stage of the disease, when a colliquative diarrhœa supervenes, by the bark united with columbo root and opium.

Genus II. Febris Intermittens.

Intermittent Fever.

Intermittents, whether they appear in the form of quotidians, tertians, quartans, or whatever be their type, have clearly an affinity and strong connection with continued fevers. They run into each other with remarkable facility; and the disease which begins under one genus, frequently terminates in the other. Intermittents, with bad management, become continued fevers; and these, properly treated, are soon made to intermit.

Intermittents, like the continued fevers, may be distinguished into two species, bearing a strong resemblance to Synocha and Typhus, and equally with the latter may be attended by symptoms of putridity.

The predisposing cause of intermittents is clearly debility, with penury of blood; because the robust, and such as have a generous diet with a sufficient quantity of wine, are most free from this disease.

The occasional cause is usually marsh miasma, and exposure to cold with humidity, more especially if alternating with heat.

The sedative and deleterious effects of marsh miasma appear from the testimony of Sir John Pringle, respecting soldiers fainting, and dying suddenly, asthey marched through morasses during the campaigns in Flanders.

As

As to the proximate cause of intermittents we must refer to what has been advanced already on continued fever.

From this it will be evident, that the indications of cure must be,

1. *To clear the first passages from bile, undigested food, and viscid mucus.*

2. *To strengthen the system, and to brace the fibre.*

To answer the first intention, and to prevent congestions in the abdominal viscera, we must frequently have recourse to powerful emetics, followed by calomel. Let the stomach and bowels be evacuated, let them be freed from sordes and from viscid phlegm, and the intermittent ceases; yet without tonics, the sordes may collect again, and if so the fever will return. I frequently combine the calomel gr. 4 with antimon. tartarisat. gr. j. at night, and repeat it in the morning.

To answer the second intention we prescribe a generous diet, with wine and exercise, assisted by astringents, either vegetable, such as bistort, tormentil, the Peruvian bark, and the barks of oak, of willow, and of horse chesnut; or mineral, such as alum, with the preparations of iron, zinc, and copper.

To these vegetable and metallic *astringents*, may be united, bitters, with aromatics, according to the subsequent forms.

℞ Cinchonæ ℥j. Aq. frigid. vel Vin. alb. Hispan. ℔j post 24 horas, Colaturæ ℥iss. addas Aq. Cinnamon. Syr. bals. *aā* ʒj. m. f. Haust. omni bihorio s. absente febre.

That is,

Take Peruvian bark one ounce, infuse 24 hours in a pint of water orsherry wine, strain, and to an ounce and a half of this infusion add cinnamon water and balsamic syrup of each one dram. Mix and take this every two hours in the absence of fever.

℞ Cinchonæ ℥j. Myrrh ʒj. Extr. Glycyr. ʒij. Syr. Cort. aurant. q. s. f. Elect. c. M. N. M. om. bihor.

That is,

Bark one ounce; myrrh one dram; extract of liquorice two drams; syrup of orange peel a sufficient quantity to make an electuary; of which take the quantity of a nutmeg every two hours.

℞ Cinchonæ ℥j. Chalyb. Rubig. pp. ʒij. Pulv. Aromat. ʒj. Cons.

Cons. Cort. Aurant. ℥ss. Syr. Zinzib. q. s. f. Elect. c. M. N. M. om. bihor.

That is,

Take bark one ounce, rust of iron two drams, aromatic powder one dram, conserve of orange peel half an ounce; syrup of ginger sufficient to make an electuary; take the size of a nutmeg every two hours.

Bark is frequently given in a clyster; or it may, with manifest advantage, be quilted in a waistcoat.

Camomile flowers alone in sufficient quantity, or any other bitter, will effect a cure.

As a tonic we may mention hope, which the regular practitioner may venture without scruple to administer while he is witness to its efficacy when dispensed by quacks. For as there is not a more powerful sedative than fear; so neither has any cordial a more benign influence on the system, as a tonic, than reviving hope, and from this alone can *charms* derive their power.

In the cure of intermittents, it should be remembered, that nature delights in habits, and that these, once broken, do not readily recur.

If, then, the emetic be administered before the accession of the paroxysm; this powerfully determines to the surface, induces perspiration, effectually prevents the cold fit, and consequently the other stages, which in the natural course of the disease would immediately succeed it, and by once breaking the habit, will frequently of itself effect a cure.

This intention may be answered by electric shocks frequently repeated before the cold fit comes on, so as to excite a perspiration, which, by the same means, must be continued beyond the usual period of accession.

With the same intention, previous to the cold fit, opium, in small doses, may be administered to diminish irritability; or, from thirty to fifty drops of liquid laudanum may be combined with either two grains of ipecacuanha, to make *Dover's powder*, or with one grain of tartarised antimony, which is more efficacious than the former. These medicines exhibited in bed, previous to the accession of the cold fit, will induce a sweat, and often prevent the paroxysm.

Some practitioners give opium in the hot fit, to shorten the paroxysm, to produce a kindly and a copious sweat, to procure refreshing sleep, to invigorate the system, and to prepare for the exhibition of the bark.

Arsenic, introduced and sold as a specific by the quacks, has lately been adopted by regular practitioners in the form recommended by Dr. Fowler.

℞ Arsenic Alb.
Sal Alk. veget. fix. *āā* gr. 64.
Aq. distil. ℔ss.
immittantur in ampullam, quâ in balneo arenæ positâ, aqua lente ebulliat, donecarsenicum perfecte solutum fuerit; deinde solutioni frigidæ adde Sp. lavend. Comp. ʒss. Aquæ distil. ℔ss. M.
Dosis gtt. 10 bis die ad gtt. 20 ter die.

The use of this powerful astringent comes sanctioned to us by the recommendation of Drs. Fowler, Arnold, Withering, Willan, Marsh, and Pearson.

Dr. Jenner, in Gloucestershire, who cured more than 200 intermittents with it, says, that the solution should be carefully filtered when it is cold.

From long experience I am clearly of opinion, that neither this nor any other astringent, either vegetable or mineral, can *with safety* be administered before the stomach and bowels have been cleansed, and I am confirmed in this opinion by an observation of professor Pallas, who, speaking of some inhabitants of Siberia, near the Ouba, says, being so indiscreet as to cure their fevers with astringent medicines, they are frequently attacked with palsy, or by such nervous disorders as either destroy them quickly or make them cripples. tom. III. p. 202.

I must here suggest a caution to the young practitioner, when he is prescribing for children who complain of intermittents.

He will frequently find this disease attendant upon worms *(teretes)*, and must therefore pay particular attention to the symptoms.

If he observes a sallow and a bloated countenance, a thick lip, and a prominent abdomen ; if the breath is offensive, and the child either picks the nose, or starts in

in sleep; let him be certain that by proper anthelmintics he will discover the occasional cause of this disease.

A few grains of calomel from three to eight at night, followed by a brisk cathartic of rhubarb and senna in the morning, will be sufficient to cure this intermittent; yet it may be proper, after these medicines, to administer tonics and astringents, particularly steel filings with bark, as the most effectual antidotes for intermittents, and the best preservative from worms.

Genus III. Febris hectica verminosa.

Hectic Fever induced by Worms.

Every disease incident to the human frame must appear in a system of nosology, either as primary or as symptomatic: but worms in no system of nosology give appellation to a primary disease; the hectic, therefore, which is induced by worms, must stand as a primary disease, and worms, as the occasional cause, must denominate the species. As for the hectic, which is a symptom of tabes and of phthisis pulmonalis, it will be treated of hereafter in its proper place.

I might produce many instances of hectic induced by worms, but it may be sufficient that I refer to one.

Thomas Winter, aged 19, was declared by his physician to be in the last stage of consumption. I found him with Pyrexia, which was evidently neither *Synocha* nor *Typhus*. This was attended by exacerbations at noon, but chiefly in the evening, frequently, but not always, followed by slight remissions in the morning, after nocturnal sweats. Sometimes, however, the chills returned in the middle of the fever.

The urine usually deposited a bran like sediment; the appetite was uncertain; the thirst was moderate.

As the most remarkable symptoms were emaciation, weakness, and hectic, the attention might have been turned towards tabes; but I found also a strong cough, and to all appearance purulent expectoration, the well known symptoms of *phthisis pulmonalis*.

The idea of phthisis might have been confirmed by observing a red circumscribed spot upon his cheek. But he had no spitting of blood, no sign of scrophula; nor had the present symptoms been preceded by

by catarrh. I took notice, that his breath was foul, and I was informed, that he was perpetually picking his nose, that he started in his sleep, and was apt to grind his teeth.

I observed at times a hecking, when with his cough he had no expectoration. He complained of a pain in his stomach, and was often disgusted at the sight of food. The bowels were sometimes open, but he was generally costive. He had perpetually either a singing in his ears or a noise like the grinding of a mill.

From these symptoms I did not hesitate to conclude that he had worms. I therefore ventured to prescribe ten grains of calomel at night, to be purged off, if occasion should require, with senna in the morning. The next day I found that, without the assistance of the senna, he had passed many stools of viscid mucus, and with them twelve large round worms, the smallest of which was at least six inches long. His cough and spitting were abated, and he had some appetite for food.

Confirmed in my ideas, I repeated the calomel at night, but not in so large a dose; and the effect was similar to that of the preceding day In less than a week all his symptoms were alleviated, and in ten days his expectoration ceased When I was satisfied that I had cleansed the alimentary canal, I gave him the Peruvian bark, with myrrh and filings of steel, by the assistance of which his strength rapidly returned, and he is now a miller in the vicinity of Bath, and as fine a fellow as can be seen.

When from the symptoms already enumerated, or to be hereafter mentioned, it is evident, that *worms* are the cause of disturbance in the system, they may be easily destroyed by wormseed *(santonicum)*, cowhage *(stizolobium)*, Indian pink *(spigelia)*, or bear's foot *(helleborus fœtidus)*.

But the most effectual way to get rid of them is by powerful cathartics, such as clear the intestines from viscid mucus; particularly calomel, with rhubarb and jalap, for the *teres;* aloes for the *ascarides;* and gamboge for the *tænia*.

For the tænia, or *tape worm*, the famous remedy of *Madam Nouffer* was fern root, of which she gave three drams early in the morning, followed in two hours by this bolus:

> Take calomel and scammony of each ten grains, gamboge seven grains.

To prevent this from being rejected by the stomach, it may be divided and taken at intervals. The bowels must,

must, however, be prepared the preceding night by a mess of panada, composed of bread two ounces with butter three ounces.

Sir John Elliot, from whom I had this information, assured me, that, by a strict adherence to this plan, he had brought away from Sir A. C. before he went to the East Indies, a *tænia* perfect and intire of a most enormous length.

Dr. Darwin recommends an amalgam of tin and quicksilver one ounce every two hours, till a pound is taken, and then a cathartic of Glauber's salt two ounces, common salt one ounce, and water two pints, to be taken in doses of half a pint every hour till it purges. But the method of cure which I have adopted and practised with singular success is the subsequent, for which I am indebted to Dr. Nankivell.

℞ Calomel,
Pil. Rufi, āā gr. x.
Ol. Absinth. essent. gtt. ij.
Pulv. Jalap. ℈ss. Syr. com. q. s. ut. ft. Pil. v. primo mané summend. et, horâ unâ elapsâ, repetantur. Omni semihora capt. quadrentem partem sequentis misturæ cum plena potatione Decocti Avenaceı.

℞ Ol. ricini recenter express. ℥iss. vitel. Ov. q. s. solut.
Ol. Absinth. gtt. viij. optime terantur simul
et adde Aq. Menth. Piper. ℥v.
Tinct. Cardamom. Comp. ℥j.
Syr. Zinzib. ℥ss. m.

Take Calomel and Pil. Rufi, of each ten grains; essential oil of wormwood two drops; jalap ten grains; syrup sufficient to make 5 pills to be taken very early in the morning, and to be repeated in an hour. After which, every half hour, take a fourth part of the following mixture, with a draught of water gruel. Castor oil one ounce and an half, dissolved with yelk of egg; oil of wormwood eight drops, well rubbed together; peppermint water five ounces; compound tincture of cardamoms one ounce; syrup of ginger half an ounce.

When worms have been destroyed, bitters and astringents must be administered, to prevent the accumulation of viscid mucus in the intestines.

Chalybeates answer this intention best, particularly iron filings, which, at the same time, act mechanically, and wound the worms, when present in the bowels. Of these

these six or more grains may be given twice a day, for a fortnight or three weeks.

Order II. Phlegmasiæ.

Inflammations.

INTRODUCTION.

The character of this order, as already mentioned, is Pyrexia, with topical pain and inflammation.

This order differs essentially from *Febris*, because,

1. The symptoms of the first stage of fever do not of necessity precede it.

2. It neither intermits, nor is it subject to regular exacerbations and remissions.

The student must be careful to distinguish the pain of inflammation from that of spasm, which is a disorder of another class; and he must take especial notice, that to constitute a disease of Phlegmasia, there must be not merely topical pain, but Pyrexia.

It will be needful likewise to remind him, that the buff coat on the blood, unless supported by more substantial evidence, is a fallacious test of inflammation.

If with topical pain, the pulse is strong; full; hard; frequent; and if the urine is small in quantity and high coloured, he may be certain that there is inflammation. In this case, the blood will be sizy, and its surface will be considerably cupped; for such a pulse indicates strong powers of coagulation in the vital fluid, and strength in the contracting solids. But if the pulse is small, although frequent and hard, and if the urine is both pale and abundant, the student may be satisfied, that the pain is spasmodic. Should the pulse be soft, he can have no room to doubt.

This order contains many genera; but, if he attends to what has already been delivered on *Synocha* and *Typhus*, he will find no difficulty in the management of these.

The

The termination depends, 1. on the nature of the *diathesis*; 2. on *the conduct* of the medical practitioner.

When there are symptoms of strength in the nervous and arterial systems, this state, adopting an expression derived from the Greek, we may call the *sthenic diathesis*: but should there be symptoms of debility in the nervous and arterial systems, this condition of the human frame, by taking the Greek privative, must then be called the *asthenic diathesis*. Should any one, however, choose in preference to call the former the *inflammatory* diathesis, the latter, in my opinion, to make the contrast, should be denominated the *hysterical* diathesis; but the expressions *sthenic* and *asthenic* appear to me best suited to the improved state of science.

This distinction, respecting the *diathesis*, lays the foundation for a correspondent distinction to be noticed in all the diseases of this order; for inflammation in its present acceptation requires to be considered either as *active* or *passive*.

SECTION I.

Of Active Inflammation, with its Proximate Cause.

Active inflammation is the disease of the sthenic diathesis, and has for its proximate cause local irritation, with morbidly increased action and excess of oscillatory motion in the arteries of the part affected. It may be considered as a local Synocha, unless when, by consent, the general system is affected, for then the attendant fever is decidedly a Synocha.

In this species of inflammation the pulse is hard, strong, full, and frequent, about 100 in a minute.

The natural termination is, 1. by resolution; 2. by suppuration and granulation, unless where a union of divided parts takes place by inflammation only, and the healing is effected, as we express it, by the first intention; or unless by its violence it induce debility, in which case it may terminate in sphacelus and death.

SECTION

SECTION II.

Of Passive Inflammation, with its Proximate Cause.

Passive inflammation is a disease of the asthenic diathesis. The proximate cause is, not local irritation, nor morbidly increased action, and excess of oscillatory motion in the arteries of the part affected, for these can be merely the occasional cause of passive inflammation; but it is loss of tone, relaxation, debility, a deficiency of vital energy, and diminution of resistance. It may be considered as a local Typhus; unless when the general system is affected, for then it ceases to be local.

In this species of inflammation the pulse is small and frequent, from 120 to 140 in a minute. It is attended by sickness, restlessness, and want of sleep; faintness, prostration of strength, spasmodic contractions of the muscles, and every symptom of debility.

The natural termination is by sloughing, or by the spreading of sphacelus, till it ends in death.

In both these species of inflammation we have congestion of blood and distention of vessels, with this difference, that in the latter the pain ceases, the fluids stagnate, and the part affected, if visible, is observed to be of a dark or *livid hue;* whilst the former has much pain, and the blood flows quicker than usual through the distended vessels; increasing heat, and augmenting both the natural secretion by the glands affected, and the discharge of lymph from the exhalants; and the part inflamed is of a *florid colour.*

When this complexion changes; when the Pyrexia runs high; when the pain is violent, and the heat advanced to 110 degrees of Fahrenheit's thermometer; we may be certain that the former species will soon be succeeded by the latter, and that *a mortification* is approaching.

SECTION III.

Of the Occasional Causes of Inflammation.

The occasional causes of inflammation may be,

1. Excess

1. Excess of heat or cold, or of heat alternating with cold.

2. Caustics of every kind.

3. Stimuli, either chemical, mental, or mechanical; particularly the stimulus of distention, which produces sensibility and irritability, where it did not appear before, and increases them in ligaments and membranes to a most astonishing degree.

4. Mechanical injuries by laceration, division, compression.

The indications of cure must be either to diminish action, or to increase the tone, according to existing circumstances, and the species of inflammation.

SECTION IV.

Indications of Cure in Active Inflammation.

These are,

To obviate the occasional cause of the disease.

If stimuli or any acrid substances irritate the system, these must be either removed, sheathed by oils and mucillage, corrected by suitable antidotes, or the part itself must be destroyed.

2. To lessen the irritability of the system.

This may be accomplished by the tepid bath and sedatives locally applied; by tonics; by astringents; by acids; and by the inspiration of the carbonic acid, and azotic airs.

3. To excite a stronger inflammation in some adjoining, but safer and more manageable, part.

Hippocrates has well observed, that greater *pain* destroys in a considerable degree the *feeling* of a lesser one. Agreeable to this Dr. Whytt informs us, that the muscles of a frog immediately after decollation are insensible to stimuli; but after ten minutes, on pricking the toes, the whole body will be violently moved.—Nature seems to pay her first attention to the loudest call.

4. To lessen the tension of the arteries, and thereby promote a resolution.

As the morbid irritation, and action of the arteries is occasioned by distention, and the distention itself is in proportion to the action of the larger arteries; it must constantly and progressively either diminish or increase, till it ends in either resolution, or suppuration. To secure the former, we must diminish the tension of the vessels by bleeding, either general or partial, according to the nature and urgency of the disease.

The same intention may be answered by cathartics; and for this purpose practitioners combine calomel with tartarized antimony, adding either opium or soluble tartar, according as they wish, either at the same time, to promote perspiration, or solely to evacuate the bowels. Or the subsequent may be adopted.

℞ Calomel, gr. iss.
Pulv. Antimon. gr. vj. m. f. pulv. h. s. s.

But here a caution will be needful.

The young practitioner, who meets with cases of violently active inflammation, must be upon his guard lest, by sudden and copious evacuations, carried to excess, he should induce debility with its train of evils, such as Typhus, gangrene, hysteria, dropsy; for in this case

Incidit in Scyllam, qui vult vitare Charybdin.

In addition to what I have here delivered, let the student consult the indications of cure in Synocha.

SECTION V.

The Indication of Cure in Passive Inflammation.

It is simply to support the vital powers.

This may be done by cordial stimulants, such as opium, wine, and aromatics; by tonics with astringents, such as bitters, bark and steel; and by the inspiration of *oxygenated air* mixed in due proportion with atmospheric air.

But see more upon this head in the indications of cure in Typhus.

SECTION

SECTION VI.

Of the Vires Naturæ Medicatrices.

The efforts of nature to relieve herself have, in all ages, exercised the attention of speculative minds. It is not my intention here to introduce the *Archæus* of Van Helmont to the student; but I shall state some facts, which will give him an idea of those efforts, which nature can exert for warding off approaching evil, for removing whatever disturbs her economy or functions, and for repairing any injury the system has received.

When cantharides, spread on a plaister, are applied to the surface of the body, they first excite a genial warmth with *inflammation* of the skin. A sense of burning follows, and nature distressed goes instantly to work, separates the cuticle to form a bag, interposes serum between the nerves and the offensive matter, then prepares another cuticle, that when the former with the adhering substance shall fall off, the nervous papillæ may be again provided with a covering.

If a grain of sand falls into the eye, tears flow in great abundance to float it off, that it may not mechanically injure that delicate and most irritable organ.

The same reasoning will apply to the operation of emetics and cathartics; for not only is the peristaltic motion, either greatly quickened or inverted, according to the urgency of the distress, but both the mucous glands, and the exhalant arteries, pour forth their fluids in abundance, to wash away the matter that chemically, or even mechanically, offends.

When a thorn is lodged in some irritable part, the first suggestion of the mind is by the fingers, or by the assistance of the nails, to extract that thorn. But it is perhaps beyond our reach.

The design of nature, in the consequent *inflammation*, is to produce suppuration, and thereby to remove the thorn.

Should this effort be effectual, she next proceeds to the

the granulation of new flesh. The arteries and the veins, the lymphatics and the nerves, extend themselves, unite, and renew their communication, and, without the assistance of a surgeon, nature effects a cure.

Supposing her efforts to float off the offending matter, whatever it may be, should be insufficient after the suppuration is complete, she then proceeds to surround it with a wall; a hard and insensible callus is produced; or, in the language of surgery, a *fistula* is formed, and here, as I apprehend, her efforts cease.

In case of pleuritic *inflammation*, nature pours forth coagulating lymph, and, without the physician's aid, forms a new membrane, supplied, like the renovated flesh already mentioned, with arteries, veins, lymphatics, nerves, and thereby preserves the substance of the lungs from injury.

Van Swieten makes mention of cases in which calculi in the gall bladder, being too large for the common duct, had, after producing inflammation, adhesion, and suppuration, found their way by fistulous ulcers to the external surface of the body, and thus effected their escape. Comment. § 950.

Among the most astonishing efforts of nature to relieve herself, are those exerted in some cases of *extra uterine conception*. For when a child has been lodged within the cavity of the abdomen, from which it cannot be extracted in the usual way; nature, by *inflammation*, usually forms adhesion, and in process of time an abscess, so as to eject the fœtus, either through the teguments of the abdomen, or by the rectum; and this frequently without considerable injury to the mother's health.

Yet more astonishing are her resources in cases of *necrosis*. For supposing some portion of a bone (for example of the tibia) to be deprived of animation, this she envelops with new bone, united at each extremity with the fibres of the living bone. Here it proves a stimulus, and calls forth renewed efforts of the vital principle. *Inflammation* is produced; suppuration follows; fistulous openings are formed in the new bones, and the dead portions,

portions, if not extracted by the surgeon with the chissel and the saw, are dissolved by the pus and floated off.

Thus, nature in almost innumerable cases, even without assistance, is able to effect a cure.

I have already mentioned, in cases of *inflammation*, the efforts to relieve herself by resolution and by suppuration; but when the vital energy in a part has been totally exhausted, and *sphacelus* ensues, she has still one expedient left, and this frequently effects a cure. Fresh *inflammation* is excited, and makes a separation between the living and the dead. The part deprived of animation is cast off by sloughing; a kindly suppuration follows; and granulation with a new cuticle completes the cure.

This interesting subject will be resumed under the class Cachexiæ, when we proceed to examine the laws by which the absorbents regulate their action, and the diseases peculiar to that system.

SECTION VII.

The Genera of Phlegmasiæ.

This order in my nosology contains eighteen genera; they should be nineteen.

Phlogosis, Ophthalmia, Phrenitis, Cynanche, Catarrhus. Pneumonia, Carditis, Peritonitis, Gastritis, Enteritis, Hepatitis, Splenitis, Nephritis, Cystitis, Hysteritis, Arthropuosis, Rheumatismus, Odontalgia, Podagra.

Of these I shall speak in succession.

Genus IV. Phlogosis.

This for its symptoms has Pyrexia with redness; heat; pain; and tumour on the surface of the body.

This genus contains two species.

1. Phlegmone.—A phlegmon with inflammation of a bright red colour; tumor pointed; throbbing and tending to suppuration.

2. Erythema.—St. Anthony's fire, or *the rose*, with inflammation of a dull red colour, vanishing upon pressure,

sure, spreading unequally, with a burning pain, and tumor scarcely perceptible, ending in desquamation, or vesicles of the scarf skin.

Erysipelas is a variety of Erythema preceded by Synocha, during which drowsiness and delirium are not uncommon symptoms. The face, if it be as usually the part affected, becomes bloated; the eyelids swell; and the surface of the skin is blistered. If the fever, inflammation, and delirium, are suffered to run high, the patient dies apoplectic on the seventh, ninth, or eleventh, day of the disease; or symptoms of irritation supervene, the type of the fever then changes, Typhus is formed, and the progress ends in gangrene.

Nothing is more distressing to a writer than methodical arrangement. The division into class, order, genus, species, and variety, is artificial; but nature scorns to be confined within such limits; and as in the animal and vegetable kingdom it is difficult to mark the boundaries, so in the classing of diseases, nosologists will ever be perplexed when they undertake to ascertain where one order should begin, or another terminate.

With Dr. CULLEN I had placed Erysipelas in the third order EXANTHEMATA. But with these it cannot agree, because, 1. it is not contagious; 2. it is evidently inflammatory, as appears by the pulse, the blood, the treatment required, and its termination, which is sometimes in suppuration. I have therefore restored it to the Phlegmasiæ.

It may be remarked, that although the natural tendency of *phlegmon* is to suppuration, and of *Erysipelas* to gangrene; yet in our indications of cure we must be guided by *the diathesis*, whether sthenic or asthenic; for it has been frequently observed, that by injudicious treatment and want of attention to the strength or weakness of the system, phlegmon has terminated in gangrene, and erysipelas has been rendered more rapid in its race to sphacelus and death.

In both these species, if the pulse is full, hard, and strong, we must attend to the fourth general indication in the cure of inflammation, and must be particularly careful

careful to evacuate the bowels, more especially by calomel with rhubarb, that we may leave no fomes of the fever there.

This may be effected by the refrigerant and emollient species of cathartics mentioned in my *Physician's Vade Mecum.*

Some practitioners have been so apprehensive of Typhus and grangrene, that they have rejected evacuants, with every part of the antiphlogistic regimen, and, suffering the attendant fever to run high, they have thereby hastened the evil they were anxious to avoid.

If the pulse is small, weak, and frequent, rising to 120 or 130 in a minute, with symptoms of nervous weakness and distress, we must conform to the indications of cure already mentioned in passive inflammation.

In case of *delirium*, attention must be paid to what has been said respecting it in Synocha and Typhus.

Should gangrene supervene, bark, wine, and opium, must be freely given till its progress is checked by active inflammation.

For this purpose the dose of opium must be encreased and repeated frequently without fear, should even one grain be requisite every fifteen or twenty minutes for some hours, or, in a word, till it procures repose.

Genus V. Ophthalmia.

Inflammation of the Eyes.

Ophthalmia may be readily distinguished by the redness and pain of the eye, intolerance of light, with effusion of tears.

It is divided into two species.

1. *Ophthalmia Membranarum*, with inflammation in the coats of the eye, most commonly in the tunica conjunctiva.

2. *Ophthalmia Tarsi*, by doctor Darwin called *Tarsitis*, with small ulcers in the sebaceous glands of the tarsus discharging a glutinous matter.

For the proximate cause I must refer to what has been already said on inflammation; and with respect to the

the indications, the student may look to those recommended in active inflammation.

But to be more particular I must observe, that the cure of *ophthalmia membranarum* may be effected in four ways.

1. By the application of *cold water* promoting evaporation and absorption of heat, to be continued for half an hour at a time.

2. By *electricity*. Either drawing sparks, or sending the electrical aura to the part affected.

This gently stimulates the living fibre; but violent shocks would suddenly exhaust its vital energy.

When this operation has cleared the eye from inflammation, some tonic application must be used to brace the fibres and prevent relapse.

This may be a weak solution, either of white vitriol, or of sugar of lead in rose water; to which may be added a few drops of brandy.

3. Mr. Wathen puts a drop or two of tinctura thebaica once or twice a day into the eye.

4. From long and most successful experience I recommend the following ointment:

> Take hog's lard four ounces, with the finest powder of lapis calaminaris one ounce. Let these be intimately mixed over the fire, then add honey two ounces.

A bit, as big as a pea, must be rubbed upon the interior surface or the eyelid, at the time of rest, and washed off the next morning with milk and water.

The patient, in the application of this ointment, will have need of patience; for at night the scalding tears will run down his cheek in copious streams, and the next morning his eye will be much weaker than it was before.

But the consequence of this discharge will be a diminution of the inflammation, and in two or three nights at most the cure will be effected.

As for the *ophthalmia tarsi*, which Mr. Wathen very justly calls *glandulæ sebaceæ exulceratæ*, I can say with truth, that his mode of applying the unguentum citrinum of the Edinburgh Pharmacopœia has never failed with

with me. From his grandson, one of the best operators in Europe, *Mr. Wathen Phipps*, I learnt the mode of application. A little of this ointment, melted by a candle, is taken upon a pencil brush and spread along the eyelids.

If it be done in the morning, the patient may take a walk in the air soon after the ointment has ceased its operation.

All hoods should be avoided.

Genus VI. Phrenitis.

Phrensy.

The symptoms are strong fever, violent head ach, redness of face and eyes, impatience of light and noise, watchfulness and furious delirium.

These symptoms evidently require copious bleeding, blisters to the head, the antiphlogistic regimen, evacuants of the refrigerating species, and warm fomentations, with sinapisms to the feet.

Genus VII. Cynanche.

Quinsey.

The symptoms are pain and redness of the fauces; deglutition and respiration difficult. It is accompanied by Synocha.

Five species are comprehended in this genus; but the generic description applies in strictness only to the two first.

1. *Tonsillaris*, affecting the mucous membrane of the fauces, but more especially the tonsils.

2. *Maligna*, deglutition less difficult; a mucous crust of whitish or ash colour covers the tonsils and mucous membrane of the fauces, which are affected with spreading ulcers. These symptoms are accompanied with Typhus, and followed by Exanthemata.

3. *Trachealis*. Respiration difficult: cough loud; no apparent tumour in the fauces.

Pharyngæa, affecting the pharinx and œsophagus.

5. *Parotidæa*, affecting the lower jaw.

The two first species, tonsillaris and maligna, have different diatheses, and must be carefully distinguished. For this distinction we are much indebted to the late Dr. FOTHERGILL, who by it has laid the foundation for rational indications, and a successful practice, in the treatment of them both.

SECTION I.

Of Cynanche Tonsillaris, or Quinsey.

THIS, called by some *angina inflammatoria*, and *Tonsillitis* by Dr. Darwin, is a disease of the sthenic diathesis, with the pulse full, hard, strong, and about 100 in a minute. The attendant fever is Synocha.

It is an active inflammation, of which I have stated the proximate cause to be local irritation, with morbidly increased action and excess of oscillatory motion in the arteries of the part affected.

This being the proximate cause, the inclinations of cure must be precisely such as have been already mentioned generally in Synocha and in active *inflammation*, with the addition of cooling and detergent gargles.

These may be composed of either honey and water, or a decoction of figs lightly acidulated with vinegar, or instead of vinegar, a few drops of spirit of hartshorn may be used.

A flannel, moistened with volatile liniment, composed of sweet oil two parts, with spirit of hartshorn one part, as recommended by Sir JOHN PRINGLE, may be applied to the throat at night, or a blister may supply its place.

During the day, *sal prunel.* may be frequently kept melting in the mouth, and for this at night may be substituted sugar of liquorice to moisten the throat.

Should an abscess be formed, which the lancet cannot reach, an emetic will assit to break it.

SECTION

SECTION II.

Cynanche Maligna.

Ulcerated Sore Throat.

This, called by some *angina maligna*, is a disease of the asthenic diathesis, with the pulse small, weak. and about 130 in a minute. The attendant fever is a Typhus, and the disease itself should properly appear under *scarlatina* as an accidental symptom.

It is a passive inflammation, of which I have stated the proximate cause to be loss of tone, relaxation, debility, a deficiency of vital energy, and diminution of resistance in the vessels of the part affected.

It is, perhaps, not, properly and strictly speaking, inflammation, but distention.

It requires the general treatment recommended in the cure of Typhus and of passive inflammation, with the addition of *antiseptic gargles*.

These may be composed of myrrh, alum, tincture of roses, &c. in the subsequent forms :

℞ Tinct. Rosar. ℥ 8. Acid. Vitriol. gtt. 10. Alum. ʒss. Tinct. Myrrh. ʒj. M. f. gargarismus.

That is,

Take tincture of roses eight ounces, vitriolic acid ten drops, alum half a dram, tincture of myrrh one ounce. Mix for a gargle.

Emetics are sometimes necessary to clear the first passages ; but cathartics increase debility and aggravate the symptoms.

The principal dependence must be on bark and port wine.

In the beginning of this disease, Mr. Wathen touched the ulcers with a solution of mercury, which is thus prepared :

Take quicksilver and corrosive sublimate of each one ounce ; triturate and mix them well together.

Put this into a tall phial, and cover it with distilled vinegar, and shake it for an hour. Let it settle, and then, pouring off the clear solution, put on more vinegar as long as the fresh solutions precipitate a white cloud, with spirits of hartshorn.

A bit of lint rolled on a probe, and made wet with this, must be applied to every ulcer, and repeated the next day, unless they look red.

Should the sloughs by neglect have been suffered to become large, and should they cast off slowly, they may be touched with either the mercurial solution, or with Mel. Ægyptiacum.

SECTION III.

Cynanche Trachealis.

The Croup.

The pathognomonic symptoms are, respiration difficult; cough stridulous and loud; no apparent tumour in the fauces.

There cannot remain a doubt, that this species of cynanche, so fatal to young children, is inflammatory; and that the membrane, which covers the trachea, is concreted mucus.

I have met with it in Scotland, and seen it treated with success; but I never observed a single instance of it in the vale of Pewsey.

In Dr. Hunter's museum you may see a beautiful specimen of this membrane; which evidently covered the upper part of the trachea, and extended into its ramifications, so as to merit the appellation, which Dr. Michaelis has given it, of *polyposa*.

The seat of the disease appears to be the mucous membrane, which produces a kind of exudation, similar to that which we observe on the surface of inflamed viscera.

The method of cure which hitherto has been found most effectual, has been that first recommended by Dr. Home. Copious bleeding and emetics, with a large blister applied as near as possible to the part affected, followed by every part of the antiphlogistic regimen.—But Dr. Thornton has lately discovered a more expeditious method of checking the inflammation by the inspiration of *azotic air*.

Mrs.

Mrs. Tovey, of Charles street, Tottenham court Road, having lost one child in this sonorous and terrific disorder, anxiously brought her only remaining boy to Dr. THORNTON for his advice. He immediately made the child inhale the *azotic air* with a proportion of common air, and the father and mother were surprised, when they observed that the hands, which were before "*parching hot*," soon felt "cold" to the touch; the pulse was rendered 20 beats less in a minute; the child no longer coughed as through a brazen trumpet, the fever seemed smothered, and the formation of the fatal membrane was prevented.

SECTION IV.

Of Cynanche Pharyngæa.

THIS species, compared with cynanche tonsillaris, appears to me, as far as relates to medical practice, to be a distinction without a difference. Dr. Darwin names it tonsillitis pharyngea.

SECTION V.

CYNANCHE PAROTIDÆA.

The Mumps.

THIS very properly, by doctor Darwin, is denominated parotitis.

It is a swelling under the jaw, extending over the neck, and declining the fourth day; epidemic and contagious.

As the attendant fever is slight, no medicine is required. Should delirium succeed, what has been said above upon that subject must be consulted.

Genus VIII. CATARRHUS.

Catarrh in my nosology was genus XXXIV. and stood in the fifth order, *Profluvia*, of this class. There, in submission to my master, I had placed it. But, as it evidently

evidently belongs to the PHLEGMASIÆ, I have restored it to its proper order.

The symptoms are, increased excretion of mucus from the membrane of the nose, fauces, and bronchiæ, with pyrexia, attended by cough, thirst, lassitude, increased sensibility to cold, and want of appetite.

SECTION I.

Of Colds and Coughs.

CATARRH, by a metonymy, putting the supposed cause for the effect, has been called *a cold*.

The expression is improper; because to the same agent we are equally indebted for Synocha, local inflammations, dysentary, and a vast variety of evils.

It has been called by some a *cough*, taking the denomination from one symptom. This expression is equivocal, because a cough is a symptom common to a variety of opposite diseases.

SECTION II.

Proximate Cause of Catarrh.

THE proximate cause of a catarrh, as it appears to me, is the same with that of active inflammation.

The morbid irritation, and excess of oscillatory motion in the arteries, with quickened circulation of the fluids, produce increased discharge of mucus from the glands of the nose, fauces, and bronchiæ.

This disease is therefore with propriety restored to the order of *Phlegmasiæ*.

SECTION III.

Occasional Causes of Catarrh.

As to one occasional cause Dr. BROWN has said, *Catarrhum igitur e frigore esse, calore solvendum, gravissimus error est. Contra frigus nunquam nocet, nisi ubi ejus actionem calor excipit.*

And

And a rising Genius, equally distinguished for his ardour in pursuit of science, for his chemical knowledge, and for medical abilities, has suggested, that neither catarrh nor inflammation are the consequence of wet and cold, either sudden or continued, but that both are induced by *subsequent* heat, and stimulants.

He is of opinion, that keeping quiet and cool for some time, after being wet in summer; by avoiding a sudden transition into a warm temperature in cold weather; and by temperance in both cases, these inflammatory diseases, for which cold only prepares the system, may be easily avoided; and that any person by acting on these principles may have a slight, a violent or no catarrh.

I have already hazarded some observations on the powers of heat and cold in the production of diseases; but, in addition to what I have delivered on that subject, I must venture to suggest some further hints to the consideration of *philosophical* practitioners.

The *heat of the body* is stated to be 98 degrees of Fahrenheit's thermometer, sinking, however, by disease to 94 degrees, or perhaps lower; and rising to 110 degrees, and in certain circumstances higher.

This temperature nearly, is preserved when the surrounding medium is either 120 degrees below blood heat, or 160 degrees above it; as appears by the beautiful experiments of Dr. George Fordyce.

It is evident, therefore, that this temperature, so obstinately maintained, must be essential to the well being of the system, and that the body has some inherent power in itself to regulate and preserve it, within certain limits, from noxious extremes of either heat or cold.

The generation of animal heat, as I have already hinted, and as it has been proved by others, is from the decomposition in the lungs of vital air. Now, in proportion to the condensation of the atmosphere by cold, the quantity of vital air inhaled by every inspiration is increased; and, in proportion to the cold, the appetite for substances which abound with hydrogen is equally increased.

increased. But, as it is evident, that animal heat, within certain limits, rises in proportion to the quantity of these substances received into the stomach, does it not, therefore, follow, that hydrogen, abounding in the system, promotes decomposition of vital air?

By these means, therefore, nature endeavours to preserve the temperature of the body when that of the surrounding medium is below 98 degrees.

As to the process by which the generation of superabundant heat is prevented, that may be readily conceived by what has been suggested respecting cold.—— But the principle resource is from copious perspiration, evaporation, and the consequent absorption of the generated heat.

Let us now return to cold, allowing to Dr. BROWN and highly approving what he has said respecting heat.

When the application of cold is sudden, as when the body is immerged in water, the means of generating heat, already stated, can give no help. What effort then does nature make to relieve herself? The pores are strongly closed; a constriction takes place in the extreme vessels on the surface of the body; the blood is propelled with increased momentum to the heart, and, supposing the body to be now emerged, the reaction of the heart, sending back the blood to the surface, diffuses a genial warmth, and removes the stricture. The enemy is repelled; he has retired to a distance, and the gates are again set open to the citizens.

Should the stricture continue, this effort of nature to relieve herself will terminate in fever.

Such is the effect of sudden cold, when its application is universal: but should the application be partial, what will be then the consequence? The effects already stated will be *partial* Constriction will take place in the extreme vessels subjected to the access of cold, and the blood will be propelled with increased momentum into the adjoining vessels, where tension will prove a stimulus, and be, as already stated, the proximate cause of inflammation. This for reasons assigned above, must be afterwards increased by heat.

When

When a lady, who has been heated by dancing, either sits near to a window, through which penetrates a cold and partial draught of air, or, although wrapt up in furs, inspires, instead of warm, a cold and humid air: or when a reaper reeking with sweat, either drinks cold water, or lies down to sleep upon the humid grass; the injury is perceived before the cold has alternated with heat, although the subsequent heat in proportion to its intensity, increases the disease.

It is allowed, and has been stated, that the accumulation of irritability as the predisponent cause may with heat produce inflammation: but I apprehend, that a state of exhaustion, whether induced by poverty of diet, fatigue, previous disease, copious evacuations, or by any other means, as a predisponent cause, with cold suddenly and partially applied, if continued, may produce the same effect.

On the whole then it appears, that if the change be gradual, nature between wide extremes can accommodate herself to her condition; but that when the change is partial, sudden, and continued, it generates disease.

In catarrh the parts immediately affected are, the mucous glands of the nose, the fauces, and the bronchiæ; but by consent the stomach shares with them in the disease, and its glands pour forth a viscid mucus in abundance. Hence the febrile symptoms, thirst, lassitude, and loss of appetite. Hence also, by the progress of sympathy, the increase of irritability which shuns every breath of air.

Although heat and cold are most frequently the occasional causes of catarrh, yet they are not always so; for sometimes it is contagious.

The epidemical catarrh, whenever it appeared, spread from province to province till it had extended over Europe, or even crossed the Atlantic to America. In the last of these I had the most striking demonstration, that it was contagious; for during its progress from the East, I was at St. Agnes in Cornwall, but before it reached us I removed with all my family to Lanlivery. There

we continued safe while the disease was spreading in the parish of St. Agnes, and on our return we found that few persons had escaped; but that it had quitted them and was extending westward to the extremity of Cornwall.

Dr. CULLEN has collected a register of epidemical catarrhs to the amount of twenty five between the years 1323 and 1767; but other practitioners have greatly increased this list.

SECTION IV.

Indications of Cure in Catarrh.

THESE are the same as in active inflammation; but as, unless by improper treatment or neglect, it seldom puts on a formidable aspect, it is most frequently sufficient to avoid the occasional causes of the disease, and gently to evacuate the alimentary canal.

Various expectorants have been recommended by practitioners, such as oily emulsions and the like; but these tend rather to aggravate, than to relieve, the symptom. The only medicines, which can render essential service in catarrh, are such as,

1. Determine to the surface.
2. Cleanse the alimentary canal.

Both these intentions are effectually answered by the subsequent prescription.

℞ Flor. Sulph.
Pulv. Enulæ.
—— Glycyr. ãã un. 1.
Mel. despumat. un. 4. M.
c. c. M. N. M. ter in die.

That is,

Take flowers of sulphur, powders of elecampane and liquorice, of each one ounce, clarified honey four ounces. A bit as big as a nutmeg is to be taken three times a day.

This, in the space of five and thirty years, I have prescribed to many hundred patients, and in some protracted, obstinate, and most distressing cases; yet I can affirm, that in no instance, as far as I can recollect, has it ever failed to cure.

SECTION

SECTION V.

Of Sympathetic Cough.

Doctor Whytt, in his treatise on nervous disorders, makes mention of a cough proceeding, not from phlegm, obstruction, or other irritating cause in the lungs themselves, but from sympathy with some other part, whose nerves are disagreeably affected. In confirmation of this, he relates several curious and most interesting cases, to which I must refer the student. And Sauvage informs us of a lady, who, having what she calls *paracusis oxycoia*, with *tussis hysterica*, was seized with coughing instantly as she heard the sound of the human voice. Nosologia, vol. 1. p. 756.

In my compendium of nosology, under *catarrh* I have made mention of,

1. *Tussis exanthematica*,
2. *Tussis verminosa*,
3. *Tussis a dentitione*,
4. *Tussis arthritica*;

which are the only four I thought it expedient to notice.

These are taken from Sauvage; but I should have added from his inestimable work,

5. *Tussis stomachalis*.

SECTION VI.

Tussis Exanthematica.

This species Sauvage has taken from Fr. Hoffman, who calls it *Tussis Ferina*, and attributes it to eruptions suppressed by ill timed repellents, as in cases of the scald head and itch. The symptoms are violent in the extreme, and the convulsive cough produces the most direful effects, such as apoplexy, palsy, loss of memory, and phthisis pulmonalis.

For this, Hoffman recommends blisters; bathing the feet in warm water; and flowers of sulphur with diaphoretic antimony, to be taken at night.

A most ingenious friend of mine, a young physician, effected a cure by inoculating a patient of his, who appeared in the last stage of a consumption, with the *itch*, which he knew had been injudiciously repelled.

SECTION VII.

Tussis Verminosa.

Of the worm cough I have already spoken at large in the case of Thomas Winter.

SECTION VIII.

Tussis a Dentitione.

The teething cough may be relieved by frequent doses of rhubarb with magnesia, or cured by cutting through the gum to give an easy passage for the tooth.

SECTION IX.

Tussis Arthritica.

The accurate investigation of this cough, as symptomatic of retrocedent *gout*, and not a primary disease, brought into extensive practice a friend and fellow student of mine, established for thirty years in Chester, where he dispenses health, whilst by communicating freely his ideas and medical improvements to the world, he extends the boundaries of science.

Dr. Ferriar had a patient in whom all the symptoms of phthisis shewed themselves, till he coughed up some chalk stones and recovered.

Dr. Percival had under his care a gentleman with incessant cough, purulent expectoration, and night sweats, who was cured by plenty of wine whey, with doses of hartshorn and spermaceti, which produced a gentle fit of the gout.

For the usual mode of treatment I must refer the student to *Arthritis*.

SECTION

SECTION X.

Tussis Stomachalis.

Professor Hoffman has well established both the diagnosis and the cure of stomach cough.

This disease may be distinguished from catarrh, by not having the cough and difficulty of breathing excited, either on deep inspiration, or on muscular exertion; by absence of hoarsness; by facility of lying indifferently upon either side; by long intervals between the fits of coughing; by violence of coughing and expectoration after taking food; by indigestion, nausea, vomitting, and depraved appetite; by costiveness, acidities, flatulence, and spasmodic affections.

Sauvage remarks that Lindanus, who first described the *stomach cough*, distinguished it from the true pulmonary cough by its deep and hollow sound.

Of this species of cough Hoffman has described two varieties, the *humid* and the *dry;* but as these arise nearly from the same cause, and require the same indications of cure, I shall consider them as one disease.

He subjoins a very valuable practical remark: *Generatim vero illud monendum est, quod omnis tussis quæ est periodica; à Saburra in ventriculo, vel potius intestino duodeno stabulante, suos mutuatur natales.*

From attentive observation I must here observe, that this affection of the stomach is sometimes complicated with a primary affection of the lungs.

Such is the sympathy between these organs, such their correspondence and consent, that a disease, seated originally in one, may be quickly injurious to the other.

If the mucous glands of the one are morbidly excited, those of the other may be drawn into action by consent.

But here it is needful to consider in these affections. what are the efforts of nature to relieve herself.

When any acrid or offensive matter irritates the fauces, if it is near the larynx, a cough is excited, that by a full, a sudden, and a violent expiration it may be removed.

moved. But if it is in the pharinx, vomitting ensues, that by a copious stream it may be washed away.

When viscid mucus stimulates the bronchiæ, the irritation is communicated along the larynx, and a cough, that is a convulsive expiration, clears the passages. But when the stimulus is in the stomach, the irritation is communicated along the œsophagus, and either vomiting immediately ensues, or, this irritation extended by the fauces to the larynx, a violent spasmodic cough precedes, a vomiting ensues, and, the stomach being freed from the offending matter, the cough subsides.

This effect is visible, both in chin cough and in worm cough, and may be equally remarked in the disease before us.

Of this I have seen many instances ; but I shall refer only to the case of a lady, whom I had lately the honour to attend.

The disease began with a sense of cold and shivering, soon followed by heat. The pulse was small, weak, frequent ; and there was some degree of soreness on the chest.

These symptoms were succeeded by a cough, with increased excretion of mucus from the nose, fauces, and bronchiæ.

The cough was violent, and remarkable for its deep and hollow sound. No thirst. No appetite. Rather costive. Weak, and confined to bed.

In this case, the judgment which I formed was supported by previous knowledge of the lady's constitution, whom I had frequently attended.

I began with a powerful emetic. This brought off near a quart of mucus, so viscid, that it might have been drawn out at a great extent.

The next morning I repeated the emetic with similar effect; but towards evening the cough was again aggravated, although the defluxion from the nostrils and the soreness on the breast had ceased.

In this way she passed a second and a third sleepless nights, for the cough became incessant.

Early on the fourth day, I repeated the emetic, which brought off a substance, to appearance membranous, and bearing resemblance to the finest leather of which French gloves are made. Instantly the cough ceased; every uneasy symptom vanished; her appetite returned, and, without any other medicine, in two days from this she was down stairs again.

The consent of parts, more especially the consent between the stomach and the lungs, is of such importance

tance to the medical practitioner, that I must require the student to consult the incomparable treatise of Frederic Hoffman on this subject, particularly § 28. Poro exquisitam ventriculus cum diaphragmate & pulmonibus fovet communicationem, &c. vol. 1. p. 308 to p. 318. This communication is clearly marked in a case which is quoted by Sauvage. Fredericus Archiepiscopus Bremensis ob tussim siccam, maciem, aliaque symptomata pro phthisico apud medicos habebatur : in cadavere *pulmo* sanus repertus, *stomachus* vero corruptus quasi sphacelus, & ita fœtidus, ut nihil magis, vol. 2. page 451.

The cough in question is by Dr. Stoll, of Vienna, in his Ratio Medendi, called *Tussis Stomachica*, and appears to be the same with that described by Dr. Percival, under the name of Tussis Convulsiva, which succeeded the croup in a boy of three years old. He remarks, that such a membrane as is formed in the trachea of a patient, who labours under cynanche trachealis, is sometimes generated in the *intestines*. I saw the membrane, which came from the stomach of my patient, and in substance it perfectly resembled that which Dr. Hunter exhibited in his class, when he was describing cynanche trachealis.

SECTION XI.

Indications of Cure in Tussis Stomachalis.

In many diseases the efforts of nature to relieve herself are sufficient, without the aid of medicine. In fever, in the exanthemata, in catarrh, even left to themselves, the course of a few days may put a period to the disorder : but the duration of the stomach cough, without assistance is usually protracted, and the termination may be either strophy, or, if the lungs are injured by the violence of reiterated cough, it may end in phthisis.

From what I have said it will be clear that the indications of cure must be,

1. To cleanse the stomach and first passages from indigested food, and more especially from viscid mucus.

2. To

2. To restore the tone.

The first intention may be answered by emetics. To this nature points by her repeated efforts. But should these be insufficient to cleanse the duodenum, calomel will give relief, or this may alternate with rhubarb, senna, and soluble tartar.

Or the prescriptions, 12, 13. 18. in my compendium of therapeutics, may be employed.

The second intention may be answered by bitters, bark, and steel, combined.

For the bitter we may take, either the tinctura amara, or a strong infusion made either of quasia or of horehound, with half the quantity of cassia lignea.

Or to these may be joined the bark either in substance or infusion; or we may combine them in the following form:

℞ Cinchon. un. 1. Limat. ferri, dr. 1½. Myrrh, dr. 2. Syr. Cort. Aurant. q. s. f. Elect. c. c. M. N. M. ter in die.

That is,

Take bark one ounce, iron filings a dram and an half, myrrh two drams, syrup of orange peel sufficient to make an electuary. Dose the size of a nutmeg three times a day.

℞ Cinchon. Ferri Rubig. āā un. 1. Pulv Aromat. dr. 2. Conserv. Cort. Aurant. un. 2. Syr. Zinzib. q. s. f. Elect. c. c. M. N. M. ter in die.

That is,

Take bark and rust of iron of each one ounce; aromatic powder two drams; conserve of orange peel two ounces; syrup of ginger sufficient to make an electuary. Dose as in the former.

Or the student may adopt any one of the prescriptions, 76. 78. 80, 81, 82, 83. from my compendium.

Genus IX. Pneumonia.

Pleurisy and Peripneumony.

The symptoms are, Pyrexia, difficult respiration, cough, pain in the thorax, pulse frequent and hard.

SECTION I.

Of the Distinctions to be Observed.

The student must not be deceived by pain in the region

gion of the thorax, for if there should be no Pyrexia and no cough, it is not pneumonia but spasm.

Should any doubt remain upon his mind, after he has felt the pulse, he may apply a little ether to the part affected, with his hand, which will generally relieve spasm, if it is in the intercostal muscles; and let him give the patient some magnesia with mint water, which, if the spasm should arise from flatulence and an affection of the stomach, will cause an eructation and relieve the pain. If he still continues to doubt, let him pay attention to the urine, as recommended in the introduction to this order.

I am the more earnest in this caution, because I have been witness to a number of mistakes, and some of them rendered very troublesome, by the injudicious conduct of ignorant practitioners.

SECTION II.

Indications of cure in Pneumonia.

It might be sufficient to say, that the indications are the same as already stated generally in the cure of active inflammation; but for the sake of younger students I shall be more particular, still requesting them to consult what has been there delivered on that subject.

Since then Pneumonia is a disease of the sthenic diathesis, not of the asthenic, and rather connected with Synocha than Typhus; it is clear, that the tension of the vessels must be diminished.

This intention may be fulfilled,

1. *By bleedings*, to be repeated till the tension is removed.

Topical bleeding ought naturally to be preferred to general; but as a sufficient quantity of blood cannot suddenly be obtained by leeches, or by cupping, we are obliged to use the lancet.

Whilst the blood is flowing from a vein, let the student put his finger to the artery, and if he finds the pulsations less frequent, and the pulse itself becoming fuller and softer under the touch; if he finds at the same

time the pain in the affected part diminished and the cough less troublesome ; he may be certain that he is right, and may with confidence repeat the bleeding, should a repetition be required.

2. *By cathartics* taken from the refrigerant and emollient orders.

These answer a two fold intention ; by diminishing the tension of the vessels, and by removing the fomes of the fever ; for we have seen that sordes in the alimentary canal proves a powerful stimulus to the arterial system.

Such cathartics, therefore, must be resorted to ; and although at first they may increase in some degree the general irritation, yet by the evacuation they will sink the pulse. But in the progress of the disease emollient clysters must supply their place.

Practical authors will inform the student, and experience will confirm their observation, that in this disease *blisters* are highly beneficial.

They must be large, and applied as near as possible to the part affected.

It is remarkable, that in pneumonia a large blister lessens the number of pulsations more, after the vessels have been properly emptied, than a copious bleeding.

Cooling and attenuating medicines must, at the commencement of pneumonia, be administered with a liberal hand. Such may be, the saline julep ; the sp. mindereri (ammonia acetata) ; rose water, with nitre, vinegar, and sugar ; or the prescriptions from 84 to 90, in the class Demulcentia, may be taken from my *Physician's Vade Mecum.*

The patient should be likewise plentifully supplied with barley water, buttermilk, whey, and acidulated drink.

He must abstain from animal food and from fermented liquors.

These directions relate principally to the five first days of the disease, for if the fever has been suffered to run high, suppuration, or gangrene, or hydrothorax, will then take place, and therefore bleeding would be injuri-

ous

ous in the extreme. A near approach to those dreadful terminations may be discerned, by cessation from pain, shivering, cold sweat, and a weak intermitting pulse.

Should the patient about the third or fourth day spit up a concocted matter, bleeding would stop this salutary evacuation; but should he either expectorate pure florid blood, or should he relapse after having been relieved from the most distressing symptoms, bleeding will be indispensably needful.

In the conduct of evacuations, but more especially of bleeding, the student must be governed by the pulse, the strength of the patient, and the urgency of the symptoms.

Under proper management pneumonia should yield in seven days; but should the disorder be protracted, it may either terminate about the fourteenth day in *empyema*, or produce *a hectic* with phthisis pulmonalis.

When expectoration comes on, the sulphur electuary recommended in catarrh, or any of the formulæ from 48 to 51 of *expectorantia* in my compendium, may be added.

I have never had an opportunity of trying the method of cure recommended by Dr. Hamilton of Lynn, who, after bleeding, and having emptied the bowels by clysters and gentle purgatives, gives calomel and opium twice or three times a day. To these he sometimes adds camphor and tartarized antimony.

From observing the effects of atmospheric air, when either superoxygenated, or when mixed with azotic air, as administered under the skilful direction of Dr. THORNTON, I am persuaded that the inspiration of either *azotic* of hydrogen, or of *carbonic acid air*, mixed in due proportion with common air, may be highly beneficial in cases of pneumonia.

This opinion has been confirmed by the successful practice of my friend, and by the experiment which Dr. Garnett tried upon himself, when he felt the symptoms of pneumonia, after hard exercise in a frosty air, such as flushing of countenance, dry cough, tightness on the breast, and difficulty of breathing, all which were relieved

ed by inspiring sulphurated hpdrogen gas, procured from hepar sulphuris. See Dr. Garnett on Harrowgate water, sub fine.

Genus X. Carditis.

Inflammation of the Heart.

The symptoms are, Pyrexia, pain in the region of the heart, anxiety, difficult breathing, irregular pulse, palpitation, fainting.

The inflammation of the heart and that of the peritonæum have been distinguished by nosologists; but the medical practitioner needs no such distinctions where the indications are the same. What, therefore, has been delivered on *pneumonia* is equally applicable to *carditis* and *peritonitis*.

Genus XI. Gastritis.

Inflammation of the Stomach.

The symptoms are, Pyrexia; anxiety; heat and pain in the epigastrium, increased when any thing is taken into the stomach; vomiting; hickup; pulse small, frequent, hard, and contracted; prostration of strength.

It has been distinguished into two species;

1. *Phlegmonic*, affecting the external coat.
2. *Erysipelatous*, seated in the interior and villous membrane.

The proximate cause is the same as that of active inflammation; but such is the irritability of the part affected, that the tendency is rather to gangrene than to suppuration.

The occasional causes may be,

1. Contusion.
2. Cold liquids drank, when the body has been heated by exercise.
3. Acrid substances, received into the stomach and acting chemically there.
4. Something acting mechanically and lacerating the coats of the stomach.

5. Distention

5. Distention.

For the indications of cure I must refer the student to what has been said on active inflammation.

But as twelve hours may bring the patient to his grave, it is evident that no time is to be lost in diminishing the tension of the vessels in the most speedy and effectual manner, which is by copious bleeding.

To this the smallness and hardness of the pulse will be no objection; for it will become softer and fuller by the loss of blood.

A blister should be applied to the region of the stomach.

Emollient clysters must be injected often, and if the stomach will receive them, demulcents should be given in abundance.

The nature of the acrimony, if acrimony should be the cause, must be understood, and its antidote must be applied.

In case of mechanical injury demulcents must be adopted, whilst whatever can irritate must be carefully avoided.

Genus XII. Enteritis.

Inflammation of the Bowels.

The symptoms are, Pyrexia, fixed pain in the abdomen, costiveness, vomiting, pulse as in gastritis.

This disease, distinguished from the preceding by nosologists, can scarcely be distinguished by the medical practitioner; yet in addition to what has been delivered on *gastritis*, I must add, that many eminent physicians, after bleeding as occasion may require, and having emptied the bowels by clysters and emollient cathartics, give calomel, nearly in the manner recommended by Dr. Hamilton, who combines it with opium in this form:

℞ Calomel. gr. 5. Opii, gr. 1. bis terve in die.

With this plenty of tepid and demulcent drink must be administered.

Genus

Genus XIII. Hepatitis.

Inflammation in the Liver.

The symptoms are, Pyrexia; tension and pain, more or less acute, in the right hypochondrium, usually referred to the top of the right shoulder and extended to the clavicle; increased by laying on the left side; urine high coloured; pulse frequent, strong and hard. Bilious evacuations increase, unless jaundice takes place.

It acknowledges the same proximate cause with active inflammation.

It is common in warm climates.

With regard to the method of cure, as it tends to suppuration, it will admit of bleeding freely, and of the antiphlogistic regimen without restraint.

Here, as in other cases of inflammation, calomel has been used with remarkable success; but bleeding, the refrigerant cathartics, and the antiphlogistic regimen, must constantly precede it.

℞ Infus. Sen. un. 1.
Polychrest. Rupel. dr. 4. M. & m.

That is,

Take infusion of senna one ounce, sal. polychrest half an ounce, in the morning.

Or soluble tartar about half an ounce may supply its place; unless the student should prefer to both, the combination of sulphur and cremor tartari, as in the 18th prescription of my Vade Mecum.

Blisters must be applied to the right side on the region of the liver, and all the directions given above for the cure of active inflammation must be strictly observed.

Doctor Darwin says, that when inflammations of the liver are subdued to a certain degree by venesection, with calomel and other gentle purges, so that the arterial energy becomes weakened; four or eight grains of iron filings, or of salt of steel with the Peruvian bark, have wonderful effect in curing the cough, and restoring the liver to its usual size and sanity. Zoonomia, vol. 2. p. 723.

The natural tendency of inflammation in the liver, is,

to

to suppurate; and should this take place, the discharge may be, by the lungs, by the intestines, by the cavity of the abdomen, or through the peritonæum to the surface of the belly.

In these cases hectic ensues, and the patient without assistance dies.

When the inflammation is on the convex surface of the liver, the effort of nature to relieve herself is, to form an adhesion with the peritonæum, that she may discharge the pus externally, then to granulate new flesh, and heal the wound.

In this, her efforts must be assisted by fomentations, and the abscess must be opened by the lancet.

To support the powers of life during the suppuration, the Peruvian bark must be freely used; and the dose must be increased to the utmost the stomach can endure.

Should a schirrus be formed in the liver; a gentle salivation, continued for a length of time, will often prove sufficient to remove it.

Genus XIV. Splenitis.

Inflammation of the Spleen.

The symptoms are, Pyrexia; tension, heat, tumor, and pain, in the left hypochondrium, increased by pressure.

The proximate cause and the indications of cure must be derived from what has been above delivered generally of inflammation.

The student must be guided by the pulse; and judging of any case that may occur, whether it belongs to the *sthenic* or *asthenic* diathesis, he must conduct himself accordingly; adopting, in the former instance, bleeding with the antiphlogistic regimen; whilst in the latter he must have recourse to tonics.

Genus XV. Nephritis.

Inflammation of the Kidneys.

The symptoms are, Pyrexia; pain in the region of the

the kidneys, and shooting along the course of the ureter; drawing up of the testicle; numbness of the thigh; vomiting; urine, commonly of a deep red colour, but pale and colourless as the disease increases, is discharged very often, and both with pain and difficulty; costiveness, and some degree of colic; pulse frequent, hard, and small.

The proximate cause and natural termination are the same as of inflammation in general.

The occaional cause may be, either heat or cold; it may be, either some acrid substance acting on the kidneys, or some external injury; but it is usually the irritation of calculi, which may be either in the kidney itself, or in the ureters.

As the tendency is to suppuration, it admits of bleeding with the antiphlogistic regimen; and calls for emollient clysters, not merely to evacuate the bowels, but as a warm fomentation to the part.

When the pain is great, and has been long continued, tincture of opium may be added to the clysters.

℞ Terebenith. (in V. O. solut.) ʒij. Tinct. Opii. gtt. 60. 100. Infus. Lini. ℥vj. m. f. Enema.

Refrigerants and demulcents are required in abundance with the tepid bath.

When the distress arises from calculi obstructing the ureters, relief may often be obtained from electricity.

For this purpose small and repeated shocks must be sent through the loins.

These have powerful effects, and generally promote the passage of the calculi into the bladder.

For further directions consult the Introduction to this order, with the first five Sections on the distinctions, cause, and cure, of inflammation.

Genus XVI. Cystitis.

Inflammation of the Bladder.

The symptoms are, Pyrexia; tumor and pain in the hypogastrium; frequent and painful discharge of urine; costiveness; tenesmus; pulse frequent and hard; extremities

extremities cold; sickness, vomiting, and delirium ensue.

For the cure I must refer the student, as in the preceding article, to my observations on the order, reminding him at the same time, that the internal surface of the bladder is seldom ulcerated, although we have often a purulent discharge arising from the excitement of the mucous membrane.

Hence it appears, that the demulcent plan of cure is to be preferred to venesection.

Genus XVII. Hysteritis.

Inflammation of the Womb.

The symptoms are, Pyrexia; heat, tension, tumor, and pain, in the hypogastrium; pain in the os uteri, when touched; vomiting; delirium; and starting of the tendons.

Of this genus I may say precisely what I have already said on the preceding.

Genus XVIII. Arthropuosis.

The symptoms are, pain of the joints or muscles, deep, blunt, and of long continuance. The Pyrexia is slight at first, but commonly terminates in suppuration and hectic fever.

It is produced by the common causes of internal inflammation, or by strains and bruises.

The indications are the same as in hepatitis.

Genus XIX. Rheumatismus.

Rheumatism.

The symptoms are, Pyrexia; pains in the joints increased by the action of the muscles belonging to the joint; heat on the part.

The blood after venesection exhibits an inflammatory crust.

SECTION I.

Causes of Rheumatism and Distinction of Species.

RHEUMATISM seems to acknowledge the same proximate cause with the preceding genera, and to require nearly the same indications of cure. But Dr. Darwin thinks, and his opinion appears to be well founded, that rheumatic inflammation is not a primary disease, but the consequence of morbid action translated from one part of the system to another.

It is distinguished into *acute* and *chronic*.

The *acute rheumatism* is preceded by shivering, heat, thirst, and frequent pulse; after which the pain commences and soon fixes on the joints.

The predisponent cause must be sought for in rich blood, full vessels, and a rigid fibre.

The occasional cause may be, either the sudden application of cold, with rest, after long continued heat and exercise, in constitutions not accustomed to such changes; or it may be the sudden application of heat and stimulants after long continued cold.

It differs from other inflammation in as much as,

1. It terminates neither by suppuration nor by gangrene.

2. It is apt to wander, and being driven from one part it occupies another.

3. It attacks similar parts at the same time.

4. The attendant fever observes the quotidian type, with exacerbations and increase of pain during the evening and the night.

SECTION II.

Indications of Cure in Acute Rheumatism.

THESE may be taken generally from the indications which respect the order, and which the student must consult.

But to what has been there delivered, I shall here subjoin more particular directions.

This

This being a disease of the sthenic diathesis, does not merely admit of, but calls for, bleeding and the antiphlogistic regimen to its full extent.

The practice of Dr. Clarke, of Edinburgh, was to confine his patients to their bed, where he kept them in a continued sweat for 48 hours; but Dr. Whytt adopted a different plan, by which he never failed to cure.

He bled frequently with numerous leeches applied to the joint affected; he cleansed the alimentary canal by refrigerant cathartics; and he put occasionally a blister to the part, forbidding at the same time the use of animal food and of fermented liquors.

This method I have found successful; but with it I always join small doses, repeated every morning, of antimonial powder.

The late Dr. FOTHERGILL gave great quantities of Peruvian bark on the first remission; but Dr. SAUNDERS, very judiciously improving on this practice, gives it immediately on the first attack: and, considering that acute rheumatism assumes the quotidian type of intermittents, I am inclined to think favourably of his practice.

I am much pleased likewise with the method of cure recommended by Dr. Hamilton. He begins with bleeding, then empties the bowels, and after that gives calomel with opium twice or thrice a day.

Were I to adopt the sweating process from Dr. Clarke, I should conduct it, with Dr. Hamilton, by opium, tartarized antimony, camphor, and colomel united.

SECTION III.

Of Chronic Rheumatism.

THE chronic rheumatism has pain in the joints without Pyrexia.

It is distinguished into two species,

1. Lumbago, affecting the loins.
2. Ischias, or Sciatica, affecting the hip.

It

It is a disease of the asthenic diathesis, attended by paleness diminished appetite, relaxation, debility, and torpor in the system.

It may be, either the bastard offspring of the acute, bearing the same relation to it as Typhus does to Synocha; or it may originate in strains and violent exertions.

The pains in acute rheumatism are increased by *heat*, but those of the chronic are increased by *cold*.

SECTION IV.

Indications of Cure in Chronic Rheumatism.

The indication of cure is simply to support the vital energy of the system in general, and more especially of the part affected.

To answer this intention, a generous diet, with wine and exercise, will be essentially needful.

Mercurials, with the volatile tincture of guaiacum, by perseverance, may be regarded as infallible in this disease.

Of the tincture, one dram is sufficient for a dose, to be repeated three times a day, or oftener, as occasion may require.

Calomel, from two to five grains going to bed, may be given, either alone or in combination with opium and tartarized antimony.

℞ Opii. Calomel. ā. gr. j. m. f. pil. h. s. s.

The late Dr. Fothergill, who never failed to cure *sciatica*, gave every night six grains of calomel made into a pill with conserve of roses, to be washed down with the following:

℞ Aq. Alexit. ℥iss. Sp. Alexit. ʒiss.
Vin. Antimon. gtt. 30. Tinct. Thebaic. gtt. 25.
Syr. simp. ʒj. M.

That is,

Take alexiterial water one ounce and an half; alexiterial spirit a dram and an half; antimonial wine thirty drops; Thebaic tincture twenty five drops; simple syrup one dram. Mix for one dose.

The

The calomel may be diminished if it proves too cathartic.

This treatment is equally good in *lumbago*.

Bark and steel may be united with guaiacum to advantage, and may be given in this form :

℞ Cinchonæ, ʒj. Gum Guaiac. ʒss.
Ol. Sassafras, ʒij. Limat. ferri. ʒj.
Syr. Cort. Aurant. q. s. f. Elect.
c. M. N. M. ter in die.

That is,

Take bark one ounce ; gum guaiacum half an ounce ; oil of sassafras two drams ; steel filings one dram ; syrup of orange peel a sufficient quantity to make an electuary, of which the dose may be the size of a nutmeg, three times a day.

Sea bathing is found useful.

Slight shocks of electricity sent to the part, or sparks drawn from it through flannel, will excite the vital energy ; and friction, by a flesh brush, will answer in a degree the same intention.

The part affected may be rubbed with tincture of cantharides, or with the most warm and penetrating of the essential oils. Or this form may be adopted :

℞ Camph. un. 2.
Alcohol. ℔ss.
Æther vitriolic. un. 1.
Fellis bovin. ℔iss. M.

That is,

Take camphor two ounces ; spirit of wine half a pound ; ether one ounce ; ox gall a pint and an half. Mix these for an ointment.

I am inclined to think, that *oxygen air* might prove of service in this disease.

Genus XX. Odontalgia.

Toothach.

For this the radical cure is certainly the first to be recommended, if the tooth be in the least decayed.

A blister applied behind the ear is frequently sufficient to procure relief.

The subsequent prescription comes from Boerhaave :

℞ Camphor. ʒj. Opii, gr. 5.
Ol. Caryophyl. gtt. 10. Alcohol. ʒij.
digere & cola.

That

That is,

Take camphor one dram; opium five grains; oil of cloves ten drops; spirit of wine two drams: digest, and strain

Four or five drops on a bit of cotton may be put into the ear, and renewed in a quarter of an hour.

Or you may apply the following:

℞ Opii. Camph. āā. gr. 2. O. Caryophyl. Ol. Menth. piperit. āā. gtt. 2. M. f. Pil ad dentem applicanda.

That is,

Take opium and camphor, each two grains; oil of cloves and oil of peppermint, each two drops; made into a pill, and put into the tooth.

Should these applications prove ineffectual, the pain must be treated as rheumatic.

Dr. Lister was often troubled with the toothach, and he perceived it always arose from what he had eat not digesting well. Half a glass of brandy would generally remove the pain.

A young lady, who had been for some days exceedingly distressed and almost distracted with a toothach, applied to me for advice. She had tried Boerhaave's Tincture, and had put a blister behind the ear, without the least relief. Her tongue was white, her pulse frequent and feeble; but the most remarkable symptom was the aggravation of pain, when her stomach was empty, and the freedom from it, when she had taken food. The teeth appeared sound. Considering this case not as rheumatic, but symptomatic, I gave her an emetic, which brought up some undigested sordes with a quantity of viscid mucus, and immediately the pain was relieved; and by proper management has not since returned.

Last summer, I had a case at Southampton exactly similar to this, which was instantly and effectually relieved by an emetic.

Genus XXI. Podagra.

The Gout.

The symptoms are, Pyrexia; pain in the joints, chiefly in the great toe, and especially of the hands and feet, returning

returning at intervals; previous to the attack the functions of the stomach are commonly disturbed.

SECTION I.

Of the Remote Causes of Gout, with the Distinction into Species.

Of this disease, four species are commonly enumerated.

1. The regular.
2. The atonic.
3. The retrograde.
4. The wandering.

But I shall consider them merely as tonic, or inflammatory; and atonic, or nervous.

After multiplied discussions, it appears to be universally agreed, that the predisponent cause of gout is debility, and the occasional causes such as induce debility.

It seems to have some relation to Neuroses, a class of disease to be considered in its place.

The connection between *dispepsia* and the *gout* are too remarkable to escape the observation of practitioners, for they must have noticed,

1. That the latter is almost universally introduced by symptoms of the former.

2. That the same organ, the stomach, is the seat of both.

3. That both require the same indications to effect a cure.

It has been doubted, whether the latter is hereditary; and a physician of eminence, with the most benevolent intention, has laboured to support the negative. I am inclined to think that, strictly speaking, he is right; because the disease itself is not inherited: but, at the same time, it must be confessed, and he would be ready to acknowledge, that the disposition to both *gout* and *dispepsia* are transmitted from parents to their offspring.

The predisposition may be transmitted, but if the occasional cause is wanting there is no disease.

The inflammation of gout is evidently an effort of nature to relieve herself; yet not, as many have imagined, by casting off a peccant humour; because when a regular

lar periodical fit has spent its rage, and left the patient with a comfortable hope of freedom from distress and pain for six, twelve, or four and twenty months to come, the application of any debilitating power, such as intemperance, fatigue, excessive evacuations, cold and humidity, or even the passions of the mind, will suddenly bring back all the symptoms, with the same degree of violence and duration, as if no previous fit had happened.

But whilst it is thus demonstrable, that nature does not relieve herself by casting off a morbific matter ; it will not be easy to trace her footsteps, and precisely to point out the manner in which she accomplishes her purpose.

We cannot but observe, that the pain and inflammation of the gout produces cheerfulness and freedom from all the symptoms of dyspepsia. But beyond this we are not able yet to proceed.

SECTION II.

Indication of Cure in Tonic or Inflammatory Gout.

If it is allowed, that pain and inflammation are the means made use of to relieve the habit from more dangerous and distressing symptoms, it must be evident, that these should be supported.

And, as we have nothing here to apprehend from suppuration or from gangrene, it must be clear, that we have the less inducement to hasten resolution. Yet, as pain and inflammation have a tendency to exhaust the vital powers, these must be kept within proper bounds.

To fulfil these intentions, little more is needful than to listen attentively to the voice of nature.

To bleed is hazardous in the extreme, and to give cathartics is far from safe ; cold is injurious, and every part of the refrigerating plan has a tendency to convert the inflammatory into the atonic gout.

Yet to force the appetite with spices, or, under the idea of keeping the gout from the stomach, to drink a great quantity of wine, is adding fuel to fire, which may perhaps burn too fiercely at the time.

The

The body should be kept moderately open; the part affected should be wrapt in flannel, and gentle perspiration should be carefully encouraged.

To keep the body open, the Analeptic Pill may be adopted, the form of which I received from the most intimate friend of Dr. James.

℞ Pil. Rufi, dr. 2.
Pulv. Jacobi, G. Guaiac, āā. dr. 1.
Bals. Peruv. q. s. M. f. Pill. 48.
Cap. j. h. s.

That is,

Take Rufus's Pill two drams; James's Powder and gum guaiacum, of each one dram; Peruvian balsam sufficient to make forty eight pills. Take one at night.

Gout has been incidentally cured, whilst in nephritic cases gouty patients have taken aqua mephitica alkalina. Neither need this excite our wonder, when we consider that gout and gravel are kindred diseases, and that the elements of urinary and of gouty concretions are the same, for both contain calcareous earth and phosphoric acid. By a double elective attraction, the alkali combines with the phosphoric acid, and the carbonic acid is taken up by the calcareous earth.

SECTION III.

Indication of Cure in the Atonic Gout.

It is simply, as in passive inflammation, to support the vital powers.

This, according to the urgency of the symptoms, may be done by cordial stimulants, such as musk, opium, camphor, ether, wine, and aromatics; by tonics with astringents, such as bitters, bark, and steel; by the inspiration of oxygenated air, as practised by my friend Dr. Thornton; by animal food; by exercise, and by bathing in the sea.

A gentle emetic, interposed occasionally during the exhibition of these tonics, by clearing the stomach and first passages from viscid mucus, relieves the dyspeptic symptoms, and eventually promotes both digestion and nutrition.

In case of costiveness, either the Analeptic Pills should be used as occasion may require, or, with Sir John Pringle, give tincture of senna, and tincture sacra, of each six drams at night.

If the gout attacks the stomach or the head, give the following :

℞ Mistur. Camphorat. un. 1. Ether ℥ss.
Capt. statim.

That is,

Take instantly camphorated julep one ounce, with ether half an ounce.

Sir John Pringle used the subsequent electuary :

℞ Cons. Cort. Aurant. ℥vj.
Conf. Aromatic. ℥ij.
Piper Nigr. ʒj.
Syr. Cort. Aur. q. s. f. Elect. c. c. M N. M. 4ª. q. horâ.

Take conserve of orange peel six drams; aromatic confection three drams ; black pepper one dram ; syrup of orange peel sufficient for an electuary. The size of a nutmeg is the dose to be taken every 4 hours.

In order that he might draw the gout into the feet, he applied a cataplasm of oatmeal, with mustard seed and horse radish.

℞ Farin. aven. unc. 1. Sem. Sinapi. Rad. Raph. rust. āā. unc. ½. Aceti q. s. M. fiat cataplasma talis imponenda.

SECTION IV.

Of Preservatives from Gout.

Various specifics have been recommended to the public, and have attracted attention for a time ; but in the issue they have all been proved to be either dangerous, or, at least, inadequate to the purpose for which they were intended.

The effect of bitters, if long continued, is to destroy the vigour of the constitution ; but bark and steel, joined with regular exercise and strict temperance, may be used with safety, and bids fair, by obviating the predisponent cause, either to prevent the return of gout or to render it kindly.

Orde

Order III. EXANTHEMATA.

Eruptive Fevers.

THE character of this order stands thus; contagious diseases, beginning with fever and followed by an eruption on the skin.

INTRODUCTION.

THE genera of this order have been reckoned seven: Erysipelas, Pestis, Variola, Varicella, Rubeola, Miliaria, and Scarlatina.

Of these *Erysipelas* and *Pestis* have already been considered under FEBRES and PHLEGMASIÆ, to which they have been transferred.

The remaining five will be taken in succession.

But previous to this, I must request the student to recollect what has been delivered on *Synocha* and *Typhus* compared with *active* and *passive inflammation*; because *such is the consistency of the plan pursued by nature in her efforts for relief; such the unity of design in all the laws, to which the system is made subject; such the analogy between diseases, although of different orders; that of these, every one throws light upon the rest.*

Whenever febrile eruption appears upon the skin, it will be of greater importance to determine, what is the nature of the attendant fever, than to ascertain the name of the disease. To this fever the attention should be turned, because from hence principally the indications of cure must be taken.

Should the fever be typhoide, tonics and cordial stimulants, in every case of *exanthemata*, will be needful; but should the fever be Synocha and run high, the antiphlogistic plan must be preferred: yet in both *moderation* and a *quick discernment* are required.

Genus XXII. VARIOLA.

Small Pox.

THE symptoms are, Synocha; eruption of red pimples on

on the third day, which on the eighth contain pus, and drying fall off in crusts.

SECTION I.

Of the Different Species of Variola.

The small pox has been considered as either *distinct* or *confluent*.

In the distinct small pox the fever is manifestly *Synocha*, usually moderate, attended by sweating in adults, by spasms, convulsions, or epileptic fits, in children.

On the third day commonly, sometimes on the fourth or fifth, the eruption makes its appearance in red spots on the face; and during the two succeeded days, whilst these from pimples become pustules, the body and the legs receive their portion.

From this time the fever ceases; the pustules fill, each surrounded with a margin of a florid hue; the face begins to swell; and on, or before, the eighth day, from the eruption, the pustules come to their maturity.

At this period the swelling of the face subsides; both the hands and feet begin to swell; and the secondary fever, equally benign, under proper management, with the eruptive, comes on, but soon declines again.

In the confluent small pox the fever is evidently *typhoide*. All its *preceding* symptoms are violent, and are attended, sometimes by delirium in adults, or commonly by strong epileptic fits in children.

The eruption always appears on the second or third day from the attack; and the fever never ceases, although it suffers some remission, for two or three days after the eruption has appeared.

The eruptions, frequently preceded by an erysipelatous efflorescence, are numerous, small, never pointed, but flat and filled, not with good matter, but with either water, degenerated pus, or blood and ichor.

A salivation follows, and the throat is sore.

Instead of the red circle round the pustules, which makes active inflammation, we observe the skin, where it

it can be seen, pale and flaccid, and when the pustules burst, the exuding matter forms black crusts.

The fluids often shew putrescency; *petechiæ*, that is black or livid spots, are seen among the pustules; erysipelatous vesicles appear, under which the skin is disposed to gangrene; and sometimes bloody urine is discharged.

It is on the eleventh day that the patients generally die; yet some survive till the fourteenth, and others to the seventeenth, day of the disease.

It is the secondary fever usually that proves fatal in the small pox. For supposing the fever not to have been originally typhoide, but Synocha with strong vascular excitement, the pustules will be numerous, and the active inflammation will be considerable. This naturally tends to exhaust the vital energy, and to induce debility. But when the suppurated crust is extensive on the surface of the body, independent of absorption which produces hectic, the irritation there, which always bears proportion to the surface, will not only, by consent of parts, increase the irritability of the heart, and keep up the secondary fever, but, by exhausting the powers of life, convert a Synocha to Typhus.

SECTION II.

The History of Inoculation.

The small pox, so destructive to preceding generations, is now, under proper management, no more to be dreaded than fire on the hearth.

For this change we are indebted to inoculation, introduced at the commencement of the present century by Pylarini, an eminent practitioner of Italy, who being then resident at Constantinople, sent to our Royal Society the first account both of the operation and its effects on the inhabitants of that metropolis.

By his relation it appears, that to them originally the practice had been derived from Greece, where it was found not in the hands of physicians, but of the peasants.

And by a subsequent account, transmitted to the same society

society by Timoni, A. D. 1713, it is evident, that the Circassians and Georgians had been long in the habit of performing this kind office for their female children, in order to preserve their beauty. Their principal intention was, however, to increase their value, when, at the age of maturity, they were to be sold to the Turkish officers.

A. D. 1717, the son of Wortley Montague, then at Constantinople, was inoculated, and Lady Mary, on her return to England, introduced the practice in our Island, where it was first tried on the malefactors then in Newgate under sentence of death.

In consequence of the propitious issue of that essay, it was adopted by the royal family.

Dr. Jurin, Physician to the Court, having observed, so early as the year 1722, that, instead of one in five, the usual proportion lost by the natural small pox, not more than one in ninety failed under inoculation; he communicated the information to the public, gave a description of his practice, and firmly established it in Britain.

For the modern improvement in the treatment of this disease, we are indebted to Mr. Sutton, who taught us the benefit of the antiphlogistic regimen.

This information, I imagine, was derived about A. D. 1760 from America, where they constantly, before the insertion of the matter, cleansed the alimentary canal by antimonials and mercurials.

The American practitioners restricted their patients chiefly to a vegetable diet, and instead of confining them to bed, permitted them to walk in the open air, and by no means suffered them to approach a fire.

SECTION III.

Of the Benefits derived from the Asthenic Treatment.

The scope of all their preparations was to moderate the eruptive fever, because they always observed a proportion between it and the eruption; and saw clearly, that the secondary fever, from which they had most to apprehend, was governed by the number of the pustules.

The idea formerly and universally received was, that

a certain quantity of variolous matter existed in the blood to be concocted and expelled by the eruptive fever.

This opinion is now universally exploded, excepting some villages, more especially in Cornwall, where they continue to give brandy, or, in the place of brandy, with astonishing simplicity, they substitute gin and gunpowder.

They conceive, that a ponderous load is to be heaved, and, considering that in their mines they have no agent so powerful as gunpowder, they administer it to patients on the first appearance of the small pox, and exult when the skin is covered with a multitude of pustules.

That the benefits derived from inoculation depend upon keeping down the eruptive fever, and thereby diminishing the burden on the surface of the body, is strikingly evinced by one instance, among a thousand that might be mentioned. It is recorded by Dr. Mudge.

Mr. SUTTON, in the vicinity of Plymouth, inoculated a lady, who on the third day after the commencement of the Synocha, had five or six red pimples, which formed gradually into pustules.

During the progress of the disease, as she sat at table, she expressed uneasiness, and wished to have stronger evidence, than yet appeared, that she had the small pox. Mr. Sutton told her, that she had only to eat a portion of hare, which was on the table, and drink one glass of wine, and she would have sufficient evidence to satisfy her mind.

She accepted the proposal; the fever increased; and the small pox, from being *discrete*, became *confluent*.

Sutton then took fright, and delivered her to the care of Drs. Mudge and Huxham, by whose watchful attention she was carried safely through the secondary fever.

SECTION IV.

The Conduct of Inoculation.

THE practice of Sutton, as improved by BARON DIMSDALE, is highly interesting; because, if it does not reveal the arcana of *fever*, nor trace them to their most recondite

condite recesses, at least it diffuses much light upon the subject.

The Baron, by way of preparation, recommends from five to eight grains of calomel, combined with as much compound powder of crab's claws, to which he adds tartarized antimony gr. $\frac{1}{8}$, to be taken at going to rest, and to be purged off in the morning with Glauber's salts.

This cathartic process he generally repeats three times, at the distance of three or four days, prior to inoculation; and as soon as the inflammation of the wound appears, he gives about half the former dose of calomel and crab's claws, with one tenth of a grain of tartarized antimony.

He commonly forbids the use of wine, and restrains the robust to a vegetable diet.

He recommends cool air, and is careful to keep the passage of the bowels free.

By these means he bridles the fever and governs it at pleasure, insomuch that his patients never lose either their appetite or sleep.

It must not be imagined, that mercurials act as an *antidote* to the variolous poison, any further than as, by removing viscid mucus, bile, worms, and acrid sordes, from the intestines, it becomes a febrifuge.

Is it not from hence, and from all our observations on the process of inoculation, palpably evident, *that the fomes of fever is in the alimentary canal?*

If, in the progress of the inoculated small pox, there should appear symptoms of great debility, recourse is had to wine, to animal food in moderate quantity, or even to more active stimuli.

SECTION V.

Of the Treatment in the Natural Small Pox.

From observations, which I have had an opportunity of making in different parts of Europe, for more than thirty years, I am convinced, that the treatment above described is equally applicable to the inoculated as to the natural small pox; and I have the satisfaction to find, that

that practitioners of distinguished abilities are of the same opinion.

The first attention, therefore, in the natural small pox, must be to regulate the eruptive fever ; and, supposing this to be a Synocha, with symptoms of strong vascular excitement, it must be moderated.

This may be accomplished,

1. *By removing acrid stimuli from the intestines ;* because, as I have stated, these, by consent of parts, increase the irritability of the heart.

For this purpose we use emetics and cathartics.

Of *emetics* I can say with Sydenham, "Sæpe miratus sum, dum fortè materiam vomitu rejectam aliquando curiosè contemplabar, eamque neque mole valde spectabilem, nec pravis qualitatibus insignem ; qui factum fuerit ut ægri tantum levaminis exinde fenserint ; nempe vomitu peracto, sæva illa symptomata, nausea, anxietas, jactationes, suspiria luctuosa, linguæ nigredo, &c. que et ipsos excruciârant & adstantes perterrefecerant, mitigari solent ac solvi, quodque morbi reliquum est ευθυμως tolerari."

Cathartics have a twofold operation, for they not only cleanse the bowels, but, as evacuants, they diminish the activity of the sanguiferous system, and obviate its inflammatory state. Of these calomel deserves the preference, and may be given daily during the eruptive fever.

2. *By the antiphlogistic regimen.*

For this purpose the patient must be exposed to the action of a cool and refreshing air ; he must avoid animal food with fermented liquors ; he must have acids ; he must bathe his legs in tepid water, and if, notwithstanding these precautions, the eruptive fever should run high, with a full, strong, hard, and frequent pulse, blood must be taken from a vein ; after which either the antimonial powder or tartarized antimony must be given in nauseating doses, which will both cleanse the first passages and keep up a perspiration on the skin.

But supposing, that instead of Synocha, with symptoms of strong vascular excitement, the eruptive fever

should incline to Typhus, with a frequent and contracted pulse, prostration of strength, delirium, or other symptoms of disorder in the nervous system, in this case the indication will be, to support the powers of life.

This purpose, as already stated in Typhus and passive inflammation, may be answered by cordial stimulants, with tonics and astringents, such as, aromatics, bitters, wine, brandy, opium, and the Peruvian bark, with this precaution, that the stomach must first be cleared by an emetic.

In addition to these general remarks, it is proper to remind the student, that he must obviate any tendency to putrefaction, not merely by the means already specified, but by acids, and more especially by emptying, as far as the strength of the patient will admit and occasion may require, either by cathartics, or by laxative clysters, that grand storehouse of putrefactive matter, the alimentary canal.

When the eruption has appeared, a watchful attention is required, as well to its progress, as to the state of the pulse, and to the strength and spirits of the patient.

Should the pustules flatten, and the powers of nature be insufficient to bring forward the eruption; should fainting, coldness, tremor, with other nervous symptoms, supervene; these, with the pulse and spirits of the patient, will plead for cordial stimulants, such as aromatics, wine, bitters, volatile alkali, opium, the Peruvian bark, and blisters.

In such circumstances, Dr. Whytt, after bathing the legs in warm water, was accustomed to prescribe the following:

℞ Aq. Cinnamom. un. 8.
Cinchon. un. 1.
Syr. Limon. dr. 3.
M. c. un. 1½ 0. 4. h. vel p. r. n.

That is,

Take cinnamon water eight ounces, bark one ounce, and syrup of lemon three drams.

The dose may be an ounce and an half every four hours, or more frequently if needful.

To this, in case of Petechiæ, he added elixir of vitriol, from ten to twenty drops for every dose.

When

When viscid musus accumulates in the throat, detergent gargles must be resorted to, and vinegar of squills, in the dose two drams united with twice the quantity of cinnamon water, may be given two or three times a day.

A suppression of urine is sometimes removed by exposing the patient to cold air; and in case of bloody urine, tincture of roses, and spirit of vitriol must be mixed with every thing he drinks.

Should *delirium* occur, the student must consult what has been delivered on that subject under Synocha and Typhus.

In case of restlessness and want of sleep, if there should be symptoms of debility, give opiates; but should the symptoms be those of vascular excitement, you must have recourse to evacuants, cool air, and acidulated drinks.

In the decline of the eruption, when the secondary fever follows, the attention of the practitioner must be perfectly awake.

Should this fever discover symptoms of vascular excitement, he must conduct himself as in the similar eruptive fever, with this caution, that he must not be too hasty with his lancet, lest he should be overtaken by a Typhus. Cool air, acids, and cathartics of the refrigerant order, will in most cases supersede the necessity of bleeding.

Should the secondary fever be a Typhus, the directions already given on that subject will be sufficient.

To them, therefore, I must refer the student, however, with this short memento, that, after he has given an emetic, his chief dependance must be on wine and the Peruvian bark.

Let the student be more especially attentive to support the powers of life on the eleventh, fourteenth, and seventeenth days of the disease.

With respect to nutriment, the best and most agreeable, from the time of the eruption till the pustules maturate, is *milk porridge*. It is thus made:

Take oatmeal two ounces, soft water three quarts: boil this, frequently stirring it, till it is reduced to two quarts; strain it, and let it cool; then pour off the clear liquor, and add one quart of milk, with a small quantity of sugar or of salt, whichever is most agreeable.

Genus

Genus XXIII. Varicella.

The Chicken Pox.

The symptoms are, moderate Synocha; pimples bearing some resemblance to Variola, quickly forming pustules about the size of millet seed, which contain a fluid matter, and after three or four days, from their first appearance, desquamate, leaving no cicatrix.

This disease may be safely left to nature.

Genus XXIV. Rubeola.

The Measles.

The symptoms are, Synocha; hoarseness; dry cough; sneezing; drowsiness; about the fourth day eruptions of small red points, discernible by the touch, which, after three days, end nearly in desquamation. The blood, after venesection, exhibits inflammatory crust.

In addition to the symptoms already related, we may remark, that the eyes and eyelids always shew the presence of this disease, being somewhat inflamed and suffused with tears.

The Synocha usually continues during the whole progress of the disease.

SECTION I.

Method of Cure in the Measles.

For the treatment, it might be here sufficient to refer the student to what has been delivered generally in the Introduction to this order on eruptive fevers; but in addition to this, a few hints may be usefully given.

Dr. Cullen, apprehending inflammation of the lungs, strongly urges us to have recourse to copious bleeding; but from all the observations I have had an opportunity of making, I am inclined to think, that such a practice can be seldom beneficial, and not only may be, but is frequently injurious. I had occasion to remark, when I was lately at Southampton, that the *buff coat*, or *inflammatory crust*, appeared upon the blood, even after the

the tenth or twelfth bleeding, when the patients sunk and died under the lancet.

The student, therefore, must be careful not to place too much dependance on this fallacious test of inflammation, which not only depends upon various circumstances at the time and in the act of venesection, but is equally observed in dropsy, the putrid sore throat, and the last stage of a consumption.

It should be remembered, that active inflammation can subsist only with the sthenic diathesis, whereas at the end of measles, when the inflammatory affection of the lungs is most apprehended, it is not the sthenic, but the asthenic diathesis which prevails, with symptoms not of strength but of debility.

In the measles, it is undoubtedly proper to abstain from animal food and from fermented liquors, and to breathe cool air. Yet we should confine the patient to his bed, and keep his body open with cathartics of the refrigerant order.

SECTION II.

Treatment of Cough after Measles.

In the subsequent cough, let the student consult what I have said on *Tussis stomachalis*, and satisfy his mind, whether this symptom arises by consent of parts from an affection of the stomach, or whether it is induced by active inflammation.

If the pulse is strong, full, hard, and frequent, you must bleed, and continue to observe the antiphlogistic regimen; but if the pulse is small or feeble, although quick, you must avoid that operation.

If you observe dyspeptic symptoms, or suspect that the cough is sympathetic, give an emetic, and follow this by tonics.

In such circumstances, balsam of copaiva has an excellent effect. Ten drops may be given, morning and evening, on a lump of sugar.

This, with the other balsams, similar to it in virtue, digested in spirits of lavender, is *Fuller's Balsamic Tincture*,

ture, which was formerly in great request for cough and consumption; and this balsamic tincture, with an extract of opium, is the famous *Bal am of Honey* recommended by the late Dr. Hill in these complaints.

Genus XXV. Miliaria.
The Miliary Fever.

The symptoms are, cold stage considerable; hot stage attended with anxiety, and frequent sighing; sweat of a strong peculiar smell; eruption, preceded by a sense of pricking, first on the neck and breast, of small red pimples, which in two days become white pustules, desquamate, and are succeeded by fresh eruptions in the course of the same fever.

INTRODUCTION.

This disease does not correspond with the description of the order, for it does not appear to be contagious.

Yet we can no where place it better than with fevers followed by eruption.

Among the symptoms enumerated by Dr. Cullen, is Synochus; but I can acknowledge no such distinction, because I am persuaded, that every Synocha, by bad management, that is by suffering the fever to run high and to exhaust the vital energy, by a free use of the lancet, by violent evacuations, or by neglecting properly to cleanse the first passages, may end in Typhus.

SECTION I.
History of Cases.

It never has occurred to me, to see the miliary fever as an original disease. I have observed it often in the case of lying in women, and in patients who have been confined to warm rooms, taking at the same time the most cordial stimulants.

I remember my own brother, some thirty years ago, conceiting that he was ill, sent for Dr. A———, who, after a variety of questions, asked him, if he had never had any eruption in his skin.

When

When the good old man had received an answer in the negative, he urged his patient to recollect again. On recollection, my brother told him, that many years before he had an eruption, accompanied by a sweat of a strong and peculiar smell. The Doctor immediately replied, "Aye, there we have it; that was a miliary eruption, and you never will enjoy your health till that eruption is restored."

He confined my brother to his bed; drew the curtains, shut the door, ordered a fire to be made, and gave him cordial stimulants.

In a few days a fever formed, and small red pimples were seen upon the breast, which soon became white pustules, desquamated, and were succeeded by fresh pimples.

In this case the Docter succeeded to his wishes: in another instance he was not so successful.

A LADY of a delicate habit had been declared by one physician to be bilious, by another to be nervous; but receiving no benefit from either, she sent for Dr. A——, who sagaciously informed her, that they were both mistaken, and that her disorder was the suppression of a miliary eruption. With this idea he confined her to bed, as he had done my brother, and treated her precisely in the same manner, but without success, for no red pimples could be seen.

Disappointed in his expectations, and alarmed at the fever which he had raised, he sent her into the country, and ordered that she should drink ass's milk; but in six weeks she was summoned back to town, where she underwent the discipline a second time. Yet, after peeping from day to day, without being able to discover a single pimple, till the patience of the husband was exhausted, the physician was dismissed, and Dr. Heberden was sent for.

When he arrived, he drew back the curtains, ordered the fire to be extinguished, threw up the sashes, railed against the use of medicine, and told her she wanted nothing but a cook. This sudden transition gave her cold, with fever; she sent for Dr. James, who laughed at all her medical advisers.

She took his powder; received much relief; and from that time, abjuring both physic and physicians, she has enjoyed, without the aid of medicine, that degree of health of which her delicate constitution was susceptible.

SECTION II.

Of the Pathology of Miliary Eruption.

I AM perfectly of opinion with De Haen, that miliary eruption is a factitious symptom, induced by hot regimen, and therefore to be disregarded by the practitoner, any further than to avoid such regimen, whilst his whole attention

attention must be turned towards the attendant fever, whether Synocha or Typhus.

Genus XXVI. Scarlatina.

Scarlet Fever.

The symptoms are, contagious Synocha; fourth day the face swells, and a scarlet eruption appears on the skin in patches, which, after three or four days, ends in a mealy desquamation of the cuticle, or is succeeded by anasarcus swellings, which soon subside.

It has no catarrhal symptoms, nor is there any anxiety or vomiting.

Two species are distinguished:

1. *Simplex*, without sore throat.

2. *Anginosa*, attended by sore throat; and this evidently is the *Cynanche Maligna* already mentioned, usually malignant but sometimes mild, with ulcers which form good pus and quickly heal.

In the Memoirs of the London Medical Society, we find a very interesting account of this disease by Dr. Sims, when it appeared as an epidemic in 1786.

The symptoms were, 1. paleness and dejection; 2. nausea and bilious vomiting; 3. the succeeding morning redness of the face, with eyes inflamed but not watery; pulse full and quick; throat sore.

The third day the redness was at its height, and the fauces were covered with a thick tenacious slough, arising from a prodigious secretion of tough mucus.

The fourth day small ulcers were discovered on the tonsils and velum pendulum palati.

About the fifth day the swelling was the greatest. The mouth was then filled with phlegm of extreme tenacity, and a thinner defluxion came from the nostrils.

The fever at this time was moderate, as were the heat, the thirst, the appetite.

The patients coveted wine and porter, their belly was regular, and they slept well.

About the sixth day, many had laxative motions, and passed by stool a mucus similar to that which had been rejected

rejected from the mouth. All the symptoms mended gradually, and vanished on the ninth day, by which time the desire for wine had ceased.

In others, on the fourth or fifth day a great desipiency began, nearly rising to delirium, appearing with vacant stare and incoherent speech ; the pulse, at the same time, was quick, unequal, weak, so as not to be counted, and scarcely to be felt, whilst the skin was florid, but without perspiration, and like a corpse.

The patient continued insensible to the discharge of urine and by stool.

In these circumstances, on the succeeding day, he sunk into the arms of death.

Some had the angina without the scarlatina, others had the scarlatina without the usually attendant symptoms of angina.

And others again had first the scarlatina, and, in a few days after it was gone, were attacked by angina with its attendant fever.

Old people, with many who had been weakened by anxiety, sunk under the fever, without visible angina or scarlatina, and died, with Petechiæ and desipiency, without a struggle.

In these the strongest cordials produced no effect, and blisters did not rise.

Dr. Sims, in the first state of the disease, gave the following :

℞ Tinct. Rosar. un. 2. Syr. Limon. dr. 1.
Sp. Vitriol. gtt. 20. f. Haust. o. h. s.

That is,

Take tincture of roses two ounces ; syrup of lemons one dram ; spirit of vitriol twenty drops. Made into a draught, and taken every hour.

In this state he likewise gave a sufficient quantity of rhubarb and sal polychrest, in equal parts, to procure two motions every day, and in case of nausea he ordered wine of ipecacuanha.

As the disease proceeded, he substituted decoction of the Peruvian bark for the tincture of roses ; and, if the pulse were weak, he added aromatic confection, with

stomachic tincture, and spirit of vitriol; not, however, omitting the rhubarb and sal polychrest.

He gave meat every day, and wine in moderation, but not enough to weaken by intoxication.

This practice he continued till the turn of the disease, when he diminished the cordial tonics, that he might avoid new fever.

From what has been delivered, the student may collect, that, in the management of scarlet fever, he must be guided chiefly by the pulse, and adopt indications from Synocha or Typhus, according to the symptoms of debility or strength.

Genus XXVII. Pemphigus.

A fever attended by successive eruptions of vesicles about the size of almonds, which are filled with a yellowish serum, and in three or four days subside.

The fever may be either Synocha or Typhus.

When Dr. Cullen published his Nosology, he was inclined to omit Pemphigus, because he had never met with it, and considered every account delivered respecting it as obscure.

But in the present day we can no longer doubt of its existence, as well characterized and easily to be distinguished from every other species of eruptive fever.

Dr. Dickson, of Dublin, is of opinion that *Pemphigus* is not contagious; but Burserius, whilst he allows the validity of this remark respecting the mild species, asserts, that the malignant species is contagious, and he considers that even in the mild species a tendency to putrefaction is constant and considerable.

This agrees with Dr. Cullen's difinition of the genus Typhus Contagiosa.

In the treatment of this disease no particular attention is required to the eruption; because the indications of cure are to be derived wholly from the fever, whether Synocha or Typhus. To these, therefore, I refer the student.

Genus

Genus XXVIII. Framboesia.

The Yaws.

Fungi resembling raspberries, or sometimes large and scabrous like the mulberry, growing out of various parts of the body, chiefly near the groins. It is infectious, and may be propagated by inoculation. It begins with Pyrexia and the appearance of specks, which become small pimples, and gradually increase till the decline of the disease.

The same person never has it a second time.

This, with Dr. Cullen, I had placed in the class *Cachexiæ ;* but, convinced by the arguments of Dr. Ludlow, of Jamaica, I have placed it among those cases with which it has a more natural connexion.

Dr. Ludlow recommended a generous diet with diaphoretics for three weeks, or till the yaws no longer increase either in number or in size. He then salivates his patients for about ten days, till the skin is clear, and concludes his operation by æthiops with gum guaiacum.

Dr. Thornton cures them by the application of blue vitriol.

Order IV. Hæmorrhagiæ.

Hæmorrhages.

The character is, Pyrexia, attended by a discharge of blood without any external injury ; the blood on venesection exhibiting the buff coat.

INTRODUCTION.

The parts most subject to hæmorrhage are, such as most abound with blood vessels winding and creeping near the surface, and covered only by a feeble membrane. Such are the nostrils, the bronchiæ, the gums, the ileum, the rectum, and the uterus.

The persons most liable to this complaint are those who, with a soft skin, have the sanguine temperament, and it has been universally observed, that hæmorrhage from

from the nose attacks young people chiefly; from the lungs, those who have arrived at manhood; from the rectum, principally those who are advanced in years; whilst bloody urine marks decrepit age.

Spring and autumn are the seasons when we have most to apprehend from the hæmorrhagic effort.

SECTION I.

Hæmorrhage distinguished into Active and Passive.

HÆMORRHAGE may arise, either from increased momentum of the fluids, or from diminished resistance of the solids; that is, either from augmented energy of action in the larger propelling vessels, or from loss of tone in the ultimate branches of the arteries.

Hence are derived two species of hæmorrhage, active and passive, to be particularly considered.

SECTION II.

Of Active Hæmorrhage.

IN active hæmorrhage we commonly observe, prior to the effusion of blood, a sense of coldness, followed by some degree of heat, thirst, and restlessness, with the pulse frequent, strong, and sometimes hard.

The proximate cause appears to be, energy of action in the larger propelling vessels, with a determination to some particular part of the system, producing distension of the vessels, and from this stimulus, stronger efforts of the vital principle to procure relief, till, from diminished tone, anastomosis, or a rupture of the vessels, a passage is made for the accumulated blood.

The occasional cause may be, violence of fever, strong vascular exertion, spices, spirits, and the stimulus of heat.

The indication of cure in active hæmorrhage is, to diminish energy in the larger propelling vessels.

For this purpose their tension must be reduced by bleeding, by nauseating doses of emetics, by the antiphlogistic regimen, by acids, and by rest.

This

This regimen, however, must not be urged too far; because hæmorrhage, which at first is active, may terminate as passive with symptoms of debility: and it must always be remembered, that the energy and living power of an organ bears proportion to the quantity of blood which circulates through it.

Cold water, and probably the inhalation of azotic air, and air surrounded by a frigorific mixture, are useful, but the most speedy relief from hæmorrhage is obtained by fainting. Dr. Ferriar gives the infusion of digitalis with remarkable success.

To prevent a return, recourse must be had to abstinence and exercise.

SECTION III.

Of Passive Hæmorrhage.

In passive hæmorrhage the pulse is soft and feeble, and the symptoms of Pyrexia are wanting.

This is the most common species in young subjects and in females.

It may be induced,

1. By all the causes which diminish the action of the solids.

2. By whatever either dissolves the crasis of the blood, or corrodes the solids, whether the acrimonious solvent be purulent, ichorous, gangrenous, cancerous, or scorbutic.

The indication of cure is, to brace, strengthen, and restore tone to the whole system, and particularly to the extreme arteries.

With this intention, tonics and astringents, with refrigerants externally applied, must be freely used.

I have found a strong infusion of oak bark with quassia and cassia lignea highly efficacious. Sir John Pringle, in cases of hæmorrhage, ordered this application:

℞ Sacch. Sat. unc. 1.

Solve in aceti opt ℥j. ex hoc liq. linteum quater duplicat. madefact. imponatur regioni cordis.

Boyle strongly recommends his electuary of Hyoscyamus.

With

With these medicines wine and a generous diet perfectly agree.

When hæmorrhage is a symptom of any particular disease, as for instance of scurvy, putrid fever, phthisis, dysentery, the indications must be taken from the primary disease.

SECTION IV.

A caution to avoid Mistakes, between Active and Passive Hæmorrhages.

It is of importance for practitioners to avoid mistakes between active and passive hæmorrhage, because, by treating the active affection, as the passive should be treated, a critical evacuation may be checked, nature may be defeated in her efforts to relieve herself, dangerous diseases may be induced, and the patient may be destroyed by his physician.

On the other hand, by prescribing for passive hæmorrhage the medicines which would be proper in the active, the strength of the patient will be speedily exhausted, the disease will be increased, every distressing symptom will be aggravated, and the patient will be lost.

To obtain clear and distinct ideas on this subject, the younger student must carefully consider what has been delivered on active and passive inflammation, and also the indications of cure in Synocha and Typhus.

SECTION V.

Of the Genera.

Of this order we have five genera:

Epistaxis, Hæmoptysis, Phthisis, Hæmorrhois, and Menorrhagia.

Genus XXIX. Epistaxis.

The symptoms are, bleeding at the nose, with pain or fulness of the head, frequently preceded by giddiness, sudden dimness of vision, drowsiness, and itching of the nose.

It

It is the disorder chiefly of young people, who have a lax habit and debilitated fibre; of females, who have obstructed catamenia; and of men, in whom the piles have ceased to bleed.

SECTION I.

General Remarks.

When this disease appears with the sthenic diathesis, the pulse, by its strength and fullness, prior to the loss of blood, will prove that it is an active hæmorrhage.

But when it is the disease of a lax habit and debilitated fibre, a soft and feeble pulse will manifest the hæmorrhage to be passive.

It has been remarked, that patients who in early youth have been subject to bleeding at the nose, as they have advanced to manhood have been liable to severe affections of the chest, such as, spitting of blood, pleurisy, and phthisis pulmonalis; and in riper age have been attacked by piles, nephritic diseases, and the gout.

Innumerable instances are observed of *vertigo*, *headach*, *phrenitis*, *convulsions*, and *epilepsy*, being removed by a spontaneous bleeding at the nose; and, on the other hand, these diseases, with *apoplexy*, and *gutta serena*, are induced by a premature suppression of this critical discharge.

A bleeding at the nose is salutary and critical in Synocha, when it happens either between the third and fourth, or on the seventh day: but in Typhus, in hectic, and in dropsy, it is most often fatal.

SECTION II.

Observations on Plethora.

Under the genus *Epistaxis* Dr. Cullen mentions two varieties, the *Epistaxis* of young people with signs of arterial plethora, and the *Epistaxis* of old people with signs of the venous plethora.

With regard to arterial plethora there can be no room to doubt, that the strength and vigour of the system

is

is in proportion to the quantity of *well oxygenated blood* circulating through the arteries. This will be evident to every one who considers the nature of the animated fibre; for, as Dr. Brown has judiciously observed, when the vessels are distended mechanically by the blood, that is, with *well oxygenated blood*, this stimulates the fibres to contract with vital energy, the action and reaction are great, the contradiction strong; all is activity, and all is vigour.

This state of the vessels is properly their tone.

And I well remember an apothegm of Dr. Cullen's, or at least one that he used frequently to quote, *Pondus addit robur;* that is, weight, or, in other words, fulness of the vessels, give strength.

Supposing due circulation increases strength, general plethora with increased proportion of circulating blood, as it produces universal vigour, cannot be the cause, proximate, predisposing, or occasional, of passive hæmorrhage, which requires debility in the extreme vessels for its production.

SECTION III.

Indication of Cure in Epistaxis.

If these ideas are well founded, the indications of cure in the spontaneous epistaxis of lax habits will be, to remove and to avoid the occasional causes, and to strengthen the dabilitated fibre.

These are the means of preventing the recurrence of epistaxis. But when the disease is present, it may be stopped, if needful, by the partial application of cold, by mechanical pressure, by styptics locally applied, such as, blue vitriol, (cuprum vitriolatum) or allum, and by acids united with astringents.

The mechanical pressure may be made by dossils of lint, introduced gradually to the posterior part of the nostrils.

Hoffman relates the case of a young gentleman of a sanguine temperament and florid complexion, who, from frequent and copious bleeding at the nose, lost his strength, his appetite, and in some degree his sight.

The

The professor being consulted, ordered, that for his common beverage he should take cold water from the fountain, with tincture of roses, spirits of vitriol, and syrup of barberries, keeping at the same time his feet and body warm.

In fourteen days the bleeding ceased, and when he had been nourished for some weeks with strong broth and jelly, he perfectly regained his health and sight.

By these medicines the determination was changed from the internal to the external surface, and a free perspiration, which, when copious, in cases of hæmorrhage, is a good omen, was restored.

For more particular observations on the cause and cure of epistaxis, see the introduction to the order, and what has been delivered generally respecting hæmorrhage.

Genus XXX. Hæmoptysis.

The pathognomonic symptom is, coughing up florid, or frothy, blood.

It usually returns by paroxysms, preceded commonly by stricture on the surface of the body, lassitude, pain in the back, flatulence and costiveness, pain or heat with oppression on the chest, irritation in the larynx, and a saltish taste in the mouth.

The persons most subject to hæmoptysis are, such as are slender in their make, with long necks and contracted chest, of an irritable habit, subject in their early years to bleeding at the nose.

These are more especially liable to it when they cease to grow, or from the age of five and twenty to five and thirty.

SECTION I.

Of the Causes of Hæmoptysis.

The occasional causes may be, not only spices, spirits, and the stimulus of heat, but a too powerful exertion of the lungs, as in coughing, singing, and blowing wind instruments,

struments, or strong efforts in the expulsion of the fæces.

It is promoted by sudden changes in the temperature of the air, and by humidity; hence it is most common at the equinoctial periods.

HOFFMAN supposes determination to the lungs, with impeded return of blood by the pulmonary veins, producing aneurism and rupture in the arteries, to be the proximate cause of hæmoptysis, and these affections he conceives to be induced by spasmodic stricture on the internal and external surfaces of the blood.

This may be easily conceived; but, when he introduces orgasm, ebullition, and turgescence of the blood, arising from increased intestine and expansive motion of its sulphureous aëro ætherial parts, as diminishing and destroying the systaltic and elastic power of the vessels, and thereby inducing congestion, distension, rupture, I must profess, that I have no distinct idea of his meaning.

SECTION II.

Of the Species of Hæmoptysis.

Dr. CULLEN enumerates five species of hæmoptysis:

Plethorica, *Violenta*, *Phthisica*, *Calculosa*, and *Vicaria*.

The *vicaria*, in my opinion, is clearly symptomatic, and, strictly speaking, therefore, should not be considered as a species.

It is a curious effort of nature to relieve herself in cases of obstructed catamenia, and is therefore named by Sauvage *Hæmoptysis Catamenialis*.

The indications of cure in this case will be properly considered when we come to amenorrhœa.

For the mode of treatment of the *plethorica*, I must refer the student to what I have already said on plethora, in the preceding genus.

Dr. Ferriar met with several cases of hysterical hæmoptysis, in which the quantity of blood evacuated was six or eight ounces daily for a fortnight or three weeks successively. With this evacuation, the pulse was moderate,

erate, and there was globus hystericus. The disorder became hysteria, and no bad consequences followed the hæmorrhage from the lungs. See his Med. His. vol. II. This case was certainly from plethora.

The *phthisica* has no title to be a specific term, as being either expressive of the effect, or a symptom of phthisis as the primary disease.

Hæmoptysis calculosa, by its appellation, marks the occasional cause to be calculi, chiefly calcareous, formed in the lungs themselves, and of this many instances occur.

Yet this cause of the disease lies frequently concealed, till, in bodies which can with propriety be submitted to dissection, they are discovered by the knife.

SECTION III.

Of Hæmoptysis Violenta.

Dr. CULLEN has remarked, that this species happens to persons of a delicate make, who are distinguished for *sensibility* and *irritability*.

The predisposing cause, therefore, is debility; and it must be remembered by the student, that the numerous blood vessels of the lungs, spread out near to the internal surfaces of the bronchial cavities, are situated in a loose cellular texture, and covered by a tender membrane, so as to be easily exposed, either to anastomosis or to rupture, where debility prevails.

The occasional cause may be heat, or violent exertion, giving increased momentum to the blood in the vessels of the lungs, or it may be some mechanical injury offered to the lungs themselves.

From the proximate, the predisposing, and the occasional causes, it will be clear, that the indications of cure should be,

1. To avoid heat and violent exertion.
2. To promote a determination to the surface of the body.
3. To strengthen the habit, by gentle exercise, by astringents, and by tonics.—And,
4. By living in a moist air.

Dr.

Dr. CULLEN, in all cases of hæmoptysis, condemns chalybeates and the Peruvian bark ; but I have seen and had sufficient evidence of the greatest advantages derived from both.

When my eldest daughter was five years old, she had an hæmoptysis, for which I sent her to Bath, where she drank the waters for six weeks, and returned to me in perfect health. And, when I myself was troubled with the same complaint, Dr. CHARLTON ordered for me a generous diet, with port wine and the Peruvian bark.

From experience I am convinced that spontaneous hæmoptysis must commonly be considered as a passive hæmorrhage ; and from this conviction, to patients of a delicate and irritable habit, unless particularly contra-indicated, I have given a strong infusion of oak bark combined with alum, bitters, and vitriolic acid.

Cheerfulness and the confidence of hope, as powerful tonics, are excellent remedies in this disease.

When, says the learned Hoffman, we meet with young people of an irritable disposition and great sensibility, with a full pulse, we must abstain from cordials, volatile salts, and acrid purgatives ; and must give nitre, manna, tamarinds, and diluents, such as, goat's whey, gruel, and barley water.

But when we observe viscidity, torpid bowels, a cold and humid temperament, with a relaxed habit, we must then give balsams, spirit of sal ammoniac, and carminatives with martial tinctures.

He particularly recommends, in all cases, gentle astringents to prevent relapse.

With regard to periodical hæmoptysis, he says, "*Periodos servantes morbi f mitem, ut plurimum habent sordium in prima corporis regione colluviem.*"

In such cases, therefore, he prescribed emetics and cathartics, and having in one instance, after the exhibition of these, perfected the cure by sal. vol. oleos. gtt. 20, given in black cherry water every four hours, he thus accounts for this effect : "*Quia impensiores spasmos, eruptionis auctores, excipere solet debilitas ; et relaxatio, ad stagnationem novam adeoque inducendum denuo spasmum postea*

postea ansam præbens, hæc utique non melius potest præscindi, quam robor ando partes atoniâ affectas, quod per ejusmodi volatilia oleosa perficiter commodissimè. Vol. II. p. 207.

Here he assumes debility, as the predisposing cause, and to remove it he approves of tonics.

Should, however, hæmoptysis be attended by a phlogistic diathesis, with symptoms of strong vascular excitement, the pulse being full, frequent, hard, and the heat much increased; in these circumstances bleeding may be proper, with cooling laxatives, acidulated drinks, absolute rest, and a vegetable diet.

In such circumstances, tonics and astringents can have no place; they must be deferred till the diathesis shall be changed.

Yet these are circumstances which do not frequently occur. For this reason, the treatment of hæmoptysis recommended by the late Dr. MARRYOT, who was distinguished as a successful practitioner at Bristol, is not unworthy of attention.

He says, never bleed, but give for a dry vomit two grains of tartarized antimony, and, when nausea begins, expedite the operation by a solution of vitriolated copper, two grains in water. After the operation, he always ordered half a glass of brandy.

In chronic cases, he gave balsam of copaiva, twenty drops morning and evening, with the following electuary, to be continued many weeks.

℞ Cinchon dr. 6. Flor. Sulph. dr. 3. Nitr. dr. 1. Sulph. Antimon. precip. scr. 1. Mucil. Gum. Arab. q. s. f. Elec. c. c. M. N. M. ter in die.

That is,

Take Peruvian bark six drams, flowers of sulphur three drams, nitre one dram, precipitated sulphur of antimony one scruple, mucillage of gum Arabic a sufficient quantity.

Take of this electuary the size of a nutmeg three times a day.

In cases of necessity, he gave a scruple of alum, to be repeated as occasion might require.

Dr. RUSH, of Philadelphia, recommends dry sea salt to be taken in great quantities, but on what principle I am at a loss to say.

Genus

Genus XXXI. Phthisis.

Consumption.

The symptoms are, emaciation, debility, cough, hectic, purulent expectoration, hæmoptysis, diarrhœa.

INTRODUCTION.

To distinguish this disease from others, to which it bears a striking resemblance, requires much accuracy of discernment, and the most minute attention, because all the symptoms are equivocal.

Emaciation is common to tabes, to atrophy, to fevers of every species, and to a variety of chronic complaints.

Of *debility* we may say the same.

Cough is a very common symptom, neither confined to this disease nor to catarrh, but to be observed in many others, arising from consent between various parts of the system and the lungs.

Such is the sympathy between the organs of respiration and the alimentary canal in its whole extent, that we have frequently a cough produced by a stimulus of acrid matters, whether acidities, bile, worms, or viscid mucus, collected either in the stomach or small intestines, and sometimes by ascarides, or even by the usual irritation of fæces in the rectum.

Hectic is regarded by Dr. Cullen as an evidence of ulceration in the lungs; but it will not be difficult to prove, that hectic is often present where there is no ulceration, and therefore no pus to be absorbed.

In confirmation of this we have a curious case of *nostalgia* related by Dr. Hamilton, of Ipswich, to be hereafter particularly mentioned in its place.

And in cases of hectic following nervous atrophy, as stated by Dr. Whytt in his observations on nervous diseases, there is no absorption of pus.

Sir Clifton Wintringham judiciously refers *hectic fever*, in the first place, to circumstances obstructing the passage of blood through the lungs; secondly, to acrimony; thirdly, to inanition.

Dr.

Dr. Home in his Principia Medicinæ inquires, "Is there any hectic as a primary disease?" and he replies, "I have seen many, where no viscus was more diseased than another: *Multas mihi certe contigit vidisse, ubi nullum viscus præ aliis, per totum morbi decursum laborabat. Neque fidem huic opinioni derogant viscerum obstructiones, quæ semper in cadaveribus inveniuntur. Effectus enim æque ac causæ sunt febrium hecticarum.*"

Even in cases, in which there is pus to be absorbed, John Hunter has clearly demonstrated, that hectic is not produced.

Dr. Darwin, in a letter to Dr. Beddoes, says, that large abscesses, as long as they are excluded from any access of air, occasion no *hectic fever;* but, on their surfaces being exposed to the contact of the external air, by bursting, hectic fever is occasioned in a very few hours.

And Mr. Bell, an eminent surgeon of Edinburgh, indebted for his information to Dr. Monro, has delivered his sentiments in similar expressions, as appears in the fifth volume of the Medical Commentaries.

To this eminent professor we have been equally indebted for teaching surgeons to exclude the air from recent wounds.

Yet even here it may be observed, that it is not the air itself which produces hectic, but, as John Hunter has sagaciously remarked, in his Treatise on Inflammation, hectic then commences when abscesses are put into that state, in which the constitution is to make its efforts towards a cure, which it is not able to accomplish; for if the parts are well disposed to heal, no hectic is produced.

The appearance of *purulent expectoration* is likewise equivocal; because, even assisted by the observations of Dr. Cullen, and the experiments of Mr. Charles Darwin, it is sometimes difficult, if not impossible, precisely to distinguish the nature of the expectoration. And Dr. Cullen himself, after all his observations and reasonings on the subject, terminates at last, by taking for granted, what he should have proved, that hectic fever always arises from absorbed pus; and then hastily concludes, that

that the presence of hectic is sufficient to demonstrate the attendant expectoration to be purulent.

Were this indeed sufficient, he might have spared himself the trouble of referring to the experiments of Mr. Darwin.

But even supposing the expectoration to be such, as in catarrh is frequently, towards the close, discharged by the mucous glands of the nostrils; yet this will by no means prove that the lungs are ulcerated.

Hæmoptysis has already been considered as a genus, and cannot, therefore, be a sufficient evidence of phthisis.

Diarrhœa is the last and concluding symptom.

When this appears, it will be too late to settle our diagnosis.

Since then all the symptoms, separately considered, are equivocal, and even when united have deceived the most eminent professors, we must be careful in the extreme not to make mistakes.

SECTION I.

Phthisis may be Symptomatic.

INDEPENDENT of the preceding observations, I am inclined to think, that phthisis itself is sometimes symptomatic, and therefore to be cured by attention to the primary disease: for instance, protracted *catarrh*, the *hectica verminosa*, *tussis stomachalis*, *asthma*, and *amenorrhœa*, have been known to terminate in phthisis, and being cured, have left the patient free from all complaint. What I have therefore said upon these particular diseases should be consulted by the student.

It is well known, that violent, long continued, and frequently repeated, agitations of the lungs in coughing, whether that cough be idiopathic or sympathetic, will produce a strong determination to the chest, with diseased glands, hæmoptysis, and phthisis.

Hence it has frequently happened, that *spasmodic asthma*, *tussis exanthematica*, *tussis verminosa*, and particularly *tussis stomachalis*, improperly treated, have produced the very

very disease which the medical adviser was anxious to avoid.

I could give instances of eminent physicians, who, in these diseases, have lost their patients by a hasty and mistaken diagnosis; and of others, who, whilst they were curing *tussis stomachalis*, imagined they were treating a genuine *phthisis*, arising from tubercles and ulcers in the lungs.

Every practitioner must have observed phthisis arising from *amenorrhœa*, as the primary disease, and effectually relieved when the monthly evacuation has returned.

In addition to what I have already said on this subject, I must observe, that Dr. S. CHAPMAN, in his treatise on *remittent fever*, which assumes the form of *pulmonary hectic*, or *consumption*, gives us many curious and most interesting cases, in which the symptoms of hectic and phthisis were removed by curing the remittent fever.

This he effected by the Peruvian bark.

Scabies, syphilis, and scrophula, neglected or ill treated, may likewise terminate in phthisis, which, unless it has gone too far, may be relieved by attention to the primary disease.

I must here also refer to the symptomatic phthisis which follows *atrophia lactantium*, when either the fond mother suckles her child too long, or when the nurse, struggling with poverty, has two children hanging at her breasts, although she has scarcely strength enough to suckle one.

With respect to the cases recorded by Dr. WALKER, of more than 200 patients at Leeds, who came to him within two years, and in whom he attributes this disease to the use, or rather to the abuse, of tea; the cause assigned does not appear to me to have been adequate to the effect produced. For, since the unfortunate American war, and the heavy duties imposed upon the poor to defray the expences of that war, the lower classes in this district, the Vale of Pewsey, more especially the women, and consequently they who are giving suck, live chiefly upon tea, taking it four times a day; yet no such *atrophy* nor symptomatic *phthisis* has appeared.

As, therefore, in similar circumstances, I can say nothing from experience, I shall be silent on this subject, and refer the student to the cases as they are related by Dr. Duncan in his valuable commentaries, Decad 2. Vol. V.

SECTION II.

Of the Species of Phthisis.

Dr. Cullen has distinguished two species of phthisis. The first he calls *incipiens*, without expectoration of pus; the second *confirmata*, attended by expectoration of pus.

But, with humble submission to his superior judgment, I may venture to suggest, that these distinctions ought not to be received as characteristic of different *species*, because they are merely descriptive of the *stages* in the same disease.

Dr. Foart Simmons, with the utmost propriety, assigns for the cause of genuine phthisis, either *tubercles* or a disposition to *hæmoptysis*, and these certainly lay a good foundation for two species, which may be denominated *phthisis tuberculosa*, and *phthisis hæmoptoica*.

SECTION III.

Of Tubercles, and the Predisposition to Hæmoptysis.

For the knowledge we have of *tubercles*, we are indebted to the late Dr. Stark, whose accurate investigations have thrown full light upon this part of the pathology, and from his inestimable work I have derived my information.

Tubercles, whilst small, are always solid; when large, they are sometimes so. They approach to the hardness of cartilage, and when cut through, appear smooth, shining, uniform.

No vessels are to be seen in them, even when, after injecting the pulmonary artery and vein, they are examined with a microscope.

They are always in the cellular substances, never in the

the air vessels, in which the extremities of the bronchial ramifications terminate.

They are first extremely small, numerous, in clusters; but never in the least inflamed.

When they become vomicæ, it is always in the superior and posterior part of the lungs, where they form strong adhesions to the pleura.

Vomicæ, whose cavity is less than half an inch, are quite shut up; but those, which are larger, have one or more ramifications of the bronchia opening into them, through which matter sometimes makes its way into the trachea, and is then evacuated without rupture of the vomicæ.

The persons liable to *tubercles* are generally of a fair complexion, soft skin, and irritable habit, descended from scrophulous parents, and disposed to suffer by lymphatic tumours.

From Hyppocrates downwards it has been constantly remarked, that those most subject to *hæmoptysis*, one of the prolific parents of *phthisis*, have a delicate complexion and sanguine temperament, with florid cheeks, a slender form, long neck, contracted chest, and prominent shoulders.

Professor Camper has observed likewise, that they have sound teeth, which, as the disease advances, usually become of a *milky white*, and more or less transparent.

SECTION IV.

Of the Treatment in Phthisis.

Let the student carefully examine the constitution of his patient, and the nature of those diseases to which either he, or his parents, have been most subject, whether 1. to those which indicate a weakness and relaxation of the stomach and alimentary canal; 2. to those which arise from a disposition to hæmoptysis, and a determination to the lungs; 3. to those which originate, as scrophula, in debilitated fibres, and a peculiar affection of the glands.

Let him next proceed to investigate with minute attention the origin and progress of the disease in question.

If

If it began as a catarrh, although it be now to his apprehension a confirmed phthisis, let him treat it as a catarrh; with a milk diet, cool air, exercise on horseback, and the mixture of sulphur, elecampane, and liquorice, mixed with honey, as he will find these ordered in No. 50 of my Compendium.

Of this treatment I can say what Hoffman has advanced of milk alone; "*Quâ perplures phthisicos in cymbâ charontis quasi hærentes, sanatos pristinæque redditos valetudini novi;*" for by it the most alarming symptoms have been speedily relieved, and the patient has been soon restored to perfect health.

If the disease began with symptoms of dyspepsia and nervous affection; if there is reason to suspect, that the cough may be induced and supported by irritation in the stomach or in the small intestines; if the complaint is connected with either *hectica verminosa* or *tussis stomachalis*, already treated of; in these cases, the principal indications must be taken from the primary disease.

If it is attendant on *amenorrhœa*, what shall be said on that affection of the uterus must be consulted: if on *syphilis* or *scrophula*, reference must be had to these diseases: if it is derived from *psora* or from cutaneous eruptions, which have been repelled; from ulcers dried up, or from sweating of the feet repressed; the student must recollect what has been delivered on *tussis exanthematica*, and must prescribe accordingly.

When the indications of cure cannot be derived from these sources, the student must be contented to be wholly directed by the experience of others, and must choose for himself among the various plans which have been submitted by practitioners to the consideration of the public

I. The first plan to be considered is that, which has been most universally adopted, by bleeding and the antiphlogistic regimen; but this has been so universally *fatal*, that little expectation of relief can be derived from it.

If the disease has slain its thousands, physicians, by this mode of treatment, have slain their ten thousands.

Dr. Percival has judiciously remarked, that the hectic

hectic heat is sometimes increased by bleeding, and the use of nitre, which may indeed sink the pulse from 110 to 90, but in one quarter of an hour raises it to 130, whilst at the same time the strength is much impaired; whereas in such cases tonics sink the pulse.

I have been witness to instances, where patients, sinking under the antiphlogistic regimen, have revived, and every distressing symptom has been mitigated, by a more generous diet.

The following case related by Dr. GREGORY, of Edinburgh, to his pupils, will elucidate and confirm this observation.

The Doctor says,

"SOME time ago I was called to a patient, who, to all appearance, laboured under a confirmed *phthisis*. I thought I could be certain of its being of the scrophulous kind, both from my own knowledge of the patient's constitution, and from the progress of the disease, for there had been no spitting of blood, and indeed scarce any spitting at all, at least not so much as we should have expected from the mucous follicles of the trachea itself, or the bronchiæ, in consequence of the severe irritation of the cough.

There was nothing, to all appearance, expectorated but a little mucus.

The symptoms were, a frequent dry cough, of the peculiar hollow sound that so strongly characterizes the phthisical cough; great pain in the breast, with much difficulty of breathing; great hectic fever; the pulse never under 100, and during the exacerbations sometimes above 130; the flesh much wasted; the features sharp; the cheeks hollow, and often flushed with a circumscribed spot of red; the strength so much exhausted, that my patient could not sit upright for a quarter of an hour, nor walk across a room without support.

The sleep was broken, or prevented by the cough and fever, and there were profuse sweats every morning; but the expected diarrhœa had not yet appeared.

In the opinion of one of the most experienced practitioners in this country, as well as mine, the case was desperate; nor did we think our patient could live above three or four weeks at the utmost, apprehending the colliquative diarrhœa would soon come on, and prove fatal; or, that the sudden rupture of the supposed vomicæ in the lungs would occasion immediate suffocation.

Few remedies were ordered, and these merely palliatives; laudanum to procure sleep, and elixir of vitriol to check the sweats, &c. The Peruvian bark, at the disire of the patient's relation, was tried, but in small quantities and for a short time. There was no appearance of its having done either good or harm.

The

The usual regimen, ordered before I saw the patient, was continued afterwards, and with the usual success in such circumstances; the patient growing weaker, and the symptoms, especially the hectic fever and sweat likewise, increasing daily till the elixir of vitriol was used.

No change in the regimen was intended by us; but a natural craving for some kind of solid animal food was gratified, from a conviction that the indulgence, as the case was desperate, could do no harm: yet no idea was entertained, that it could be in the least beneficial to the patient.

Oysters were the first kind of animal food longed for and tried; then crabs; then a bit of fowl; and, in about three weeks, plain butcher's meat, and at the same time a small quantity of port wine.

With this new regimen the patient grew better apace, recovered flesh and strength, and in a few weeks was able to take exercise, first in a carriage, and afterwards on horseback.

The hectic fever was soon moderated, and at last removed, as was indeed every symptom of *phthisis*.

The patient, after experiencing repeated vicissitudes of seasons, and some of them very inclement ones, is now alive and well, though I apprehend not yet free from the danger of future phthisis, being subject still to cough, and other catarrhal complaints, on exposure to cold and moisture.

These, however, are commonly removed with little difficulty, by the simple remedy of riding, which my patient has continued to employ."

II. The second plan of cure is that of Dr. Moses Griffith, who before his death, when, as I imagine, he was about fourscore years of age, gave an account of a peculiar practice, then warranted by long experience, in what he considered as true pulmonary phthisis with ulcers in the lungs.

In hectic fevers, not attended with any great degree of heat and thirst, he gave the following:

℞. Myrrh. dr. 1. solve terendo in mortario c. Kali, dr. ½. Aq. Alexiter. un. 6½. Spirit cujuslibet dr. 6. Dein adde ferri vitriolat. gr. 12. Syr. simp. dr. 2.

M. f. H. 4. c. c. H. 1. ter in die, augendo dosin si moderati fuerint calor and sitis.

That is,

Take Myrrh one dram, grind it in a mortar with salt of wormwood half a dram; alexiterial water six ounces and an half, any kind of spirit six drams. To these must be added twelve grains of salt of steel, syrup of sugar two drams; to be divided into four portions, of which one is to be taken three times a day, increasing the dose if the heat and thirst still continue to be moderate.

In

In hectic fevers, when the heat and thirst are great, with a dry skin, hard pulse, cough with difficulty of expectoration, and flushings in the face; after bleeding and cleansing the first passages he gave the following:

℞ Myrrh. dr. 1. solve terendo in mortario cum Aq. Alex. un. 6½.
Nitri, gr. 32 ad 40. Sal. Mart. gr. 12. Syr. simp. dr. 2.
M. f. H. 4. c. c. H. j. ter in die.

That is,

Take Myrrh one dram, grind it in a mortar with alexiterial water six ounces and an half, any kind of spirit one ounce, nitre from thirty two to forty grains, salt of steel twelve grains, syrup of sugar two drams; to be divided into four portions, of which one is to be taken three times a day.

This practice has been adopted by many eminent physicians, and been attended sometimes with success.

III. The next method of cure, first recommended, as I apprehend, by Dr. MARRYOT of Bristol, was, to give daily an emetic in the morning, and balsam of copaiva twenty drops morning and evening.

For his emetic he took, tartarized antimony one grain, ipecacuanha three grains; but, in case of diarrhœa, in the place of this, he judiciously substituted blue vitriol one grain, with ipecacuanha four grains.

And, agreeable to the practice first recommended by Dr. Moses Grffith, he gave steel, as may be seen in the subsequent prescription, where it is combined with bark.

℞ Cinchon. dr. 6. Extr. Glycyr. dr. 2.
Ol. Anifi, gtt. 40.
Limat. ferri, scr. 2.
Mucil. Cum Arab. q. s. f. E.
c. c. M. N. M. bis die.

That is,

Take the Peruvian bark six drams; extract of liquorice two drams; oil of aniseed forty drops; filings of iron two scruples; mucilage of gum arabic a sufficient quantity to make an electuary, of which the size of a nutmeg is to be taken twice a day.

When the hectic fever was strong, he substituted two scruples of nitre for the iron filings, to be taken twice a day.

This practice is in some measure conformable to that of Dr. FOART SIMMONS, who has written most judiciously on the treatment of consumptions, and recommends the

the emetic of blue vitriol, in doses of from two grains to ten, after having previously drank half a pint of water.

He likewise administers the balsam of copaiva, in doses of one dram, on sugar, in the suppurative stage.

Part of this practice, with its beneficial consequences, I have had an opportunity of witnessing in the practice of Dr. ROBERTS, of Southampton, particularly in the case of a young lady aged twelve, who, with a violent cough disturbing her rest, and attended by a hectic most distinctly marked by the evening exacerbation and the morning sweats, had the circumscribed red spot in the cheeks, and expectorated a quantity of mucus mixed with pus which sunk in water.

To this young lady he gave the emetic of blue vitriol, in the smallest doses, every morning. This brought up daily a considerable quantity of phlegm, and in ten days effected a perfect cure.

IV. A fourth method of cure, practised by the ingenious and learned Dr. BEDDOES at the Hotwells, is, to make the patient breathe *hydrogene*, or *azotic gas*, and sometimes *carbonic acid gas*.

Of his views upon this subject, Dr. BEDDOES has indulged us with a short account in his late publication called, "Observations on Calculus, Sea Scurvy, Consumption, Catarrh, and Fever."

This gentleman attributes *scurvy* to the deficiency of *oxygenation*, and *phthisis* to its *excess*.

It is now pretty universally understood, that our atmosphere contains, as already stated, two kinds of air, *vital* and *azotic*, of which the former is composed of *oxygen* and *caloric*.

It is now likewise understood, that the office of the lungs in animals is to absorb the *oxygen air*, by which a *stimulating power* is communicated to the blood, *irritability* to the solids, and *heat* to both.

Hence in proportion to the quantity of *oxygen air*, derived by respiration from the air, the pulse is quickened, whilst by its defect the pulse is rendered slow and weak.

To these observations it must be added, as a well established and acknowledged fact, that in *phthisis* the blood

is

is of a florid colour, the pulse is quick and hard; whilst in *scurvy*, meaning always the sea scurvy, the blood is thin and sizy, the crassamentum is dissolved, and the pulse is very feeble.

From these facts it is induced, that in *phthisis* there is an excess of *oxygenation*, and in scurvy a *deficiency*.

In confirmation of this induction it may be remarked, that, after a most careful investigation, it is observed, that scurvy is occasioned by vitiated air, and relieved by oxygen.

But what is most to the purpose is, that phthisical patients, breathing *oxygen air*, have the fever greatly increased; but, by breathing common air mixed with *hydrogene*, *azotic*, or *carbonic acid*, *air*, the hectic fever is abated, and the expectoration becomes less offensive.

Should the hypothesis of Dr. Beddoes be confirmed; and should he be able to effect a cure in *phthisis* by inducing *scurvy*, a disease which may be easily removed, he will deserve a statue of gold to be erected to his memory!

I am inclined to hope that in *phthisis hæmoptoica* this practice will be useful, but in *phthisis tuberculosa* I fear little advantage can be expected from it.

When no expectation of relief from medical assistance has been left, change of climate has frequently produced a cure. But this implies change of air, change of diet, change of scene, reviving hope, and above all much exercise, which, if on horseback, has alone effected wonders. Of riding, our immortal Sydenham remarks, Neque magis hypochondriasis prodest hoc exercitii genus, quam tabidis phthisicisque, quorum nonnulli mihi sanguine juncti multum terrarum equo vectore peragrantes, ex meo consilio, sanitati sunt restituti; cum certò sciam me vel medicamentis quantivis pretii, aut alia methodo, quæcunque demum ea fuerit, nihil magis iisdem proficere potuisse, quam si multis verbis hortatus fueram ut recte valerent. Neque in brevioribus tantum malis, crebrâ tussi & macie stipatis, id remedium obtinuit, set ed in tabe tantum non deploratâ, ubi nocturnis sudoribus jam etiam accesserat diarrhœa, quæ phthisi confectis mortis prænuntia solet esse.

Genus XXXII. Hæmorrhois.

The Piles.

The symptoms are, flux of blood from the anus; pain there, and hæmorrhoidal swellings; vertigo; pain in the loins, and headach.

SECTION I.

Hæmorrhoidal Flux distinguished into Active and Passive.

The *hæmorrhoidal flux*, like other hæmorrhages, may be either active or passive; the former salutary when moderate and critical, but not so when untimely or excessive; the latter useless at best, and frequently injurious.

It must be considered as excessive and injurious, when it destroys the appetite, weakens the digestion, prevents nutrition, or brings on spasmodic affections, with other symptoms of debility.

In such circumstances it terminates in either hectic or in dropsy.

The active hæmorrhoidal flux is usually preceded and attended by vertigo and headach; weight and pain in the back and loins; sometimes by numbness in the thighs; constriction and sense of coldness in the extremities; flatulence in the lower belly; hard pulse; dryness of the fauces; pale and deficient urine, with frequent inclination to make water.

The blood at first is black and clotted, but afterwards red, then sometimes serous, with some resemblance to the white of an egg.

This discharge may be internal or external, periodical or accidental, either directly from the arteries, or it may first stagnate in the cellular texture, and form internal or external tumor.

The persons most subject to active and periodical discharge of blood by the hæmorrhoidal vessels are, such as are of a florid complexion, with a lax fibre, who indulge freely at a plentiful table with wine and spices, eating heartily and taking little exercise.

Females

Females of this description, during pregnancy, or with obstructed catamenia, are liable to this complaint.

It is sometimes a salutary and critical discharge in *mania*, *melancholia*, *epilepsia*, *asthma*; and, being unseasonably checked, it may induce any one of these diseases, or even *phthisis*, *hydrops*, *schirrus*, *nephritis*, *apoplexia*, and *paralysis*.

SECTION II.

Indications of Cure in the Active Hæmorrhoidal Flux.

During the flux little can be done, but to keep the body cool and perfectly at rest, whilst moderate astringents, such as conserve of roses with elixir of vitriol, may be internally exhibited.

To prevent a return, recourse must be had to temperance and exercise.

Spices and spirituous liquors must be forbidden; and violent exertions, mental or muscular, must be carefully avoided.

Lemonade, or cold water acidulated with either elixir of vitriol, or with vinegar, may be the ordinary drink.

The body should be kept open with tamarinds and rhubarb, with lenitive electuary, or with sulphur and cream of tartar; to which powder of elecampane and liquorice may be added, to promote a determination to the skin.

℞ Elect. e Senna, ℥iss.
Lac Sulph. ʒij.
Crystal. Tart. ʒss.
Syr. Ros. solut. q. s.
M. f. Elect. c. c. M. N. M. bis die.

That is,

Lenitive electuary an ounce and half; lac sulphuris two drams; crystals of tartar half a dram; syrup of roses sufficient to make an electuary, of which take the size of a nutmeg morning and evening.

Sir John Pringle was fond of this prescription.

Moderate astringents, such as conserve of roses, chalybeate waters, or the Peruvian bark in small doses, have an excellent effect; but the more powerful astringents must be avoided.

The

The learned Professor of Hall, on this subject, most judiciously observes, "*nihil magis ad perniciem ducit quam valde debilitatis corporibus, styptica, astringentia, opiata, vel alia fortiora remedia exhibere.*" Vol. I. p. 344.

SECTION III.

Indications of Cure in Passive Hæmorrhoidal Flux.

This admits of more powerful tonics and astringents, to brace the relaxed vessels. With this intention, a generous diet, cool air, and exercise, are to be strongly recommended.

But as this species most frequently is induced by costiveness, the bowels must be preserved fluxile by means of sulphur and cream of tartar, made into an electuary with pulp of tamarinds, of cassia, or of prunes, or the last prescription may be used.

Should the tumor be external, leeches may be applied; or should the pain be exceedingly distressing, a liniment may be composed of the unguentum album and camphor equal parts, with spirits of wine a sufficient quantity, to which a few drops of liquid laudanum may be occasionally added.

In such circumstances three preparations have been much recommended:

℞ Cap. papav. alb. unc. 4. Coque ex Aq. font. ℔. 4. ad ℔. 2. Aceti unc. 2. M. f. Fotus Anodynus.

℞ Sperm. Ceti, dr. 3. Ol. hyoscyam. dr. 1. Camph. gr. 6. Croci, gr. 10. M. f. Liniment. quo calide inungentur tumores.

The last is an epithem composed of lime water, rose water, elder flower water, camphorated spirit, with a small quantity of sugar of lead, to be applied warm on linen to the part.

Sir John Pringle injected twice a day lime water one ounce and half, with arquebusade half an ounce.

In Spain they have an excellent ointment, which they call ung. malorum insanorum, which gives ease with safety.

SECTION

SECTION IV.

Remedy for Fistula.

When the hæmorrhoidal tumors have been suffered to inflame to a considerable degree, and by intemperance or ill treatment have been hurried on to suppuration; fistulous ulcers may be formed, and these, when they become inveterate, require the assistance of the knife. But, previous to this, it may be expedient to try what can be done by the *paste* formerly in great request, when administered by *Dr. Ward.*

It is thus prepared:

Take elecampane and black pepper, of each one pound; fennel seed three pounds; powdered and sifted through a fine sieve. Then take honey and sugar, of each two pounds; melt these together over a gentle fire, scumming them till they become bright as amber. When cool, mix and knead this mixture and the powders well together.

Of this, a bit as big as a nutmeg may be taken twice a day.

From this preparation the celebrated Dr. Marryot derived the ingredients of his medicine, only varying the proportions, and combining with them sulphur and balsam of copaiva.

SECTION V.

Of Restoring the Hæmorrhoidal Flux.

When habitual hæmorrhoidal flux, being unseasonably stopped by styptics and powerful astringents, has been succeeded by some more troublesome or dangerous disease, it may be expedient to restore this salutary and critical discharge.

For this purpose it has been recommended to bleed in the foot; but this alone will be insufficient for the purpose. It will be needful, therefore, to give small doses of aloes, to be repeated till the effect desired is produced.

℞ Limat ferri recent.
Aloë Soc. āā. ʒss.
Gum Ammon. ʒj.
Syrup. q. s. ut f. pill. 30. Cap. pill. iij. m. & v.

Genus

Genus XXXIII. Menorrhagia.

Flooding.

The proper symptom is immoderate flow of the menses or lochia.

SECTION I.

Of Menorrhagia as distinguished into Active and Passive.

Active menorrhagia is preceded by headach, vertigo, difficulty of breathing, chillness, then flushing heat, frequent pulse, costiveness and thirst, with more than common pain in the back and loins.

The proximate cause is morbid increase of the hæmorrhagic effort in the uterine vessels.

Passive menorrhagia has the usual symptoms of debility, loss of appetite, indigestion, listlessness, a weak and frequent pulse, palpitation of the heart, want of breath, a pallid countenance, coldness of the extremities, with œdematous swelling of the feet, fainting and low spirits, with disturbed and unrefreshing sleep.

This species is frequently preceded and followed by *leucorrhœa*.

The proximate cause is a preternatural laxity in the extriemities of the uterine vessels.

The remoter causes are, such as increase the determination of blood to the uterus; such as irritate or overstrain its vessels; and such as induce general debility and relaxation of the system.

SECTION II.

Indications of Cure in Active Menorrhagia.

The indications derived from the causes remote and proximate are,

To avoid spices, spirits, and high feeding; heat; violent exertions, either mental or muscular; and whatever naturally stimulates the vessels of the uterus. To live principally on milk and vegetables; to drink cold water; to keep the body open by rhubarb, sulphur, and soluble tartar;

tartar; or, if it should be needful, to clear the stomach by emetics, and, when the pulse admits of it, to use the lancet.

SECTION III.

Indications of Cure in Passive Menorrhagia.

These are,

1. *To avoid all occasional causes of debility.*
2. *To invigorate the system by* astringents *and by tonics.*

The medicines I have always given in common cases are the following:

℞ Cinchon. un. 1. Alum. dr. 2.
Conserv. Rosar. dr. 4.
Syr. Ros. q. s. f. Elect.
c. M. N. M. ter in die.

That is,

Take Peruvian bark one ounce; alum two drams; conserve of roses half an ounce; syrup of roses a sufficient quantity to form an electuary.

℞ Cinchon. un. 1. Ter. Japon. Limat. ferri, āā. dr. 1½.
Syr. Zinzib. q. s. f. Elect.
c. M. N. M. ter in die.

That is,

Take Peruvian bark one ounce; Japan earth and filings of iron, each one dram and an half; syrup of ginger a sufficient quantity to form an electuary.

℞ Cinchon. un. 1. Rubig. Ferri, dr. 4. Cons. Cort.
Aurant. un. 2. Pulv. Arom. dr. 2. Syr. Cort.
Aurant. q. s. f. Elect.
c. M. N. M. ter in die.

That is,

Take Peruvian bark one ounce; rust of iron half an ounce; conserve of orange peel two ounces; aromatic powder two drams; syrup of oranges a sufficient quantity to form an electuary.

Of either of these, the size of a nutmeg is to be taken three or four times a day.

These medicines have seldom disappointed my expectations, either in *menorrhagia rubra*, or in the *menorrhagia alba*.

Other practitioners have given tonics and astringents in a different form.

Thus, for instance, Professor Hoffman, from his own experience,

experience, recommends the *powder of Heurmius*, of which the following is the form :

℞ Sem. hyoscyam. Sem. Papav. Alb. āā. dr. 1. Hæmatit. Coral. rub. āā. dr. ½. Camp. scr. ½.
M. c. dr. ½. m. & v.

That is,

Take the seeds of hyoscyamus and of white poppies, of each one dram ; hæmatite and red coral, of each half a dram ; camphor half a scrupie. Mix. The dose is half a dram morning and evening.

Other practitioners advise opium one grain, with five or six grains of rhubard every night.

The same caution will be useful here, as in the preceding genus, to avoid the most powerful astringents, when the vital energy has been much reduced, lest the hæmorrhage should be thereby increased.

In cases of uterine hæmorrhages, after parturition or abortion, when the patient is exhausted by a loss of blood, it has been common to give cordials ; but these, whether aromatic or spirituous, should at first be cautiously avoided, because they excite the circulation, and increase the hæmorrhage.

The best practice, in such cases, has been found to be the application of cold injections and mechanical stimulus locally applied, to excite contraction, both in the fibres of the uterus and in the extreme arteries.

At the same time the patient must be exposed to the action of cool air, and must be perfectly at rest.

A clyster with fifty drops of laudanum, may be thrown into the rectum.

SECTION IV.

Particular Directions in cases of Menorrhagia Alba.

This flux, known also by the name of fluor albus, or the whites, must be, in recent cases, carefully distinguished by its proper symptoms, such as general debility, loss of appetite, indigestion, faintness, palpitation of the heart, pain in the loins, and irregularity in the menstrual periods ; or by its preceding and following this discharge.

But

But if, instead of these symptoms, heat of urine with itching are observed to precede, and frequent desire to make water accompanies, this flux, especially if the discharge should be green or yellow, the injured female may be certain that her's is not a fluor albus.

Should it, however, prove to be of the two, that from which least is to be apprehended, the same medicines nearly will be needful, as have been recommended for the passive menorrhagia, with the addition of *oxygen air*; and these I have seen attended with success.

Dr. Whytt sometimes in obstinate cases, ordered *alum whey*, to be made by putting one dram of the alum to a pint of boiling milk. Of this he gave three ounces sweetened with sugar four times a day.

℞ Lact. recent. bullient. ℔j.
Alum rup. dr. 1.
M. ut fiat coagulum & sero colato adde Sach. alb. un. 1.
Capiat un. 3. quater in die.

Dr. Nankivell orders,

℞ Pulv. tenuiss. Alum rup. Ferri vitriolati, ā. gr. 24.
Sang. Dracon. Extr. Cort. Peruv. ā. ʒiss.
Extr. Cathart. gr. 12.
——Opii. gr. 2.
Syr. s. q. s. f. Pill. N° 48. q. c. 4. mane, paulo post jentaculum, h. 1½ ante prandium, & 7ª vesp. superbibens cyathum infus. fort. Flor. Chamæmel. vel Cardui benedict.

Hoffman placed his chief dependance on rhubarb with soluble tartar, in small doses used daily, and on steel with bitters. Many have been relieved by asses milk, with conserve of roses, and gum arabic, taken every morning.

Sea bathing is excellent in this complaint.

In Dr. Cullen's Nosology

The fifth and last order of the class PYREXIÆ is *Profluvia*; of which the character is, Pyrexia, with increased excretions.

It contains two genera, Catarrhus and Dysenteria; of which I have referred the former to Phlegmasiæ, and the latter to Spasmi.

Class II. NEUROSES.

Nervous Diseases.

THE distinctive character of this class, as we have already mentioned in the first page, is,

Affections of sense and motion disturbed; without either idiopathic Pyrexia or topical disease.

The orders of this class are four:

1. *Comata.*	3. *Spasmi.*
2. *Adynamiæ.*	4. *Vesaniæ.*

Of which the pathognomic symptoms are the following:

1. Comata.

A diminution of the power of voluntary motion, with sleep, or with the senses impaired.

2. Adynamiæ.

A diminution of the involuntary motions of either vital or natural functions.

3. Spasmi.

A morbid contraction or motion of muscular fibres.

4. Vesaniæ.

The judgment impaired, without either COMA or PYREXIA.

Of the order COMATA we have two genera.

1. Apoplexia. 2. Paralysis.

But we may consider them as four:

1. Apoplexia.	3. Cataphora.
2. Hydrocephalus internus.	4. Paralysis.

Class II. NEUROSES. Order I. COMATA.

Genus XXXIV. APOPLEXIA.

Apoplexy.

THE symptoms are, abolition of the powers of sense and motion, with sleep and sometimes snoring; the respiration and motion of the heart remaining.

These

These are the symptoms during the paroxysm; others precede, to warn us of its approach.

Such are, fulness of the head; epistaxis; giddiness; loss of memory, and confusion of thought; somnolency; deep sleep; distressing incubus; imperfect articulation; slow speech; vision disturbed by corruscations of light or by transient darkness; singing in the ears or deafness; tremors, numbness, and a sense of creeping on the limbs.

SECTION I.

Of the Proximate Cause of Apoplexy, and Distinction into Species.

The proximate cause of *apoplexy* is undoubtedly pressure on the brain, either by external violence or by tumours, but usually, and as constituting the disease, of which I am about to treat, either by distension of blood vessels or by effusion of fluids, which may be either of blood from ruptured vessels, or of serum passing by exhalants.

This lays the foundation for distinguishing apoplexy into sanguine and serous.

Besides these species, Hoffman has taken notice of a third, called by him *spasmodic*, which, although strictly speaking, sanguine, yet requires a separate discussion.

Coma is the slightest kind of apoplexy, being nothing more than deep, yet morbid, sleep.

SECTION II.

Of the Degrees of Apoplexy.

We are not sufficiently acquainted with the nature and functions of the brain to determine what degree of pressure, and where applied, produces loss of voluntary motion, whether general or partial; or this combined with loss of any, or of all, the senses.

Much less are we able to point out, what degree or what extent of pressure, and where applied, is necessary,

by

by the suspension of the vital functions, to deprive the animal of life.

Yet should we even renounce the notion, of different sets of nerves designed by nature for the several purposes of sensation, of voluntary and of vital motion; we can readily conceive one reason, why the action of the lungs, of the heart, and of the intestines, should continue, when the senses fail and when volition ceases.

This may arise from their irritability, which, although diminished, is not instantly destroyed by pressure on the brain, and from the stimulus of blood, of air, of food, which without the least diminution, continue to excite those organs.

SECTION III.

Of the Sanguine Apoplexy, and of Carus.

THE specific symptoms are, a florid colour, with flushings of the countenance; the veins of the head and neck are turgid; the face is bloated; the eyes protuberant, and suffused with tears; the heart beats strongly; the pulse is full; and the animal heat is high.

The age most subject to sanguine apoplexy is from forty to threescore. It seldom attacks young people, although in them confessedly the determination is to the head, because in youth *epistaxis*, and as we advance to manhood, *hæmoptysis*, prevents congestion in the vessels of the brain.

Persons of a sanguine temperament and of a relaxed fibre, the indolent, the corpulent, the plethoric, and such as are debilitated by age, by intemperance, by excessive evacuations, or by disease, with those who have omitted their accustomed bleedings, or in whom epistaxis, hæmoptysis, the lochia, catamenia, or the hæmorrhoidal flux, have been suppressed, are the persons most exposed to sanguine apoplexy.

The predisposing cause, therefore, is, fulness of vessels, with a relaxed fibre; or it may be, either plethora or debility alone.

The

The occasional causes are observed to be,

1. Mental stimuli, or violent passions of the mind, such as anger and terror; *anger*, which quickens the respiration and the pulse, augments the animal heat, and determines the blood with increased impetus to the vessels of the head: or *terror*, which, inducing spasmodic stricture on the surface of the body, drives the blood in too great abundance from the circumference to the centre, to the heart, and to the brain; whilst *fear* only sinks or retards the pulse, slowly diminishes the heat, and quietly extinguishes the vital flame.

Sydenham and Hoffman have remarked, that when *terror* succeeds to copious hæmorrhage of any kind, or to the pains of parturition, the almost inevitable consequence has been a fatal apoplexy.

2. Material stimuli, such as wine, brandy, opium, in considerable quantity, with the stimulus of food in too great abundance; warm rooms, hot bathing, and a scorching sun.

3. Muscular exertion, if sudden and violent, by driving the blood into the vessels of the brain; or tight ligaments about the neck, by preventing its return.

4. Spasmodic stricture in any part of the arterial system.

This, it is evident, may induce the determination to the brain already mentioned. For the arteries do not act merely as elastic tubes, but have their muscular coats; by which their dimensions may be much contracted. The larger arteries indeed have little muscular power, but as they recede from the heart, the muscular power is gradually increased, and the elastic power is diminished, till in the extremities the action of an artery is probably almost wholly muscular.

We have noticed above, the operation of anger and of terror, and have only here to add, that the tremor, debility, and sudden convulsions, which attend these passions, sufficiently denote affections, of the brain.

In these passions, the respiration labours, and the return of blood from the vessels of the head is checked, at the

the same time that the spasmodic constriction of the arteries increases the determination to the brain.

In cases of spasmodic stricture, the face is red; the pulse is full and frequent; a warm and copious sweat breaks out, and frequently the apoplexy ceases.

The persons subject to this more favourable form of the disease in question are, the young, the sanguine, and those who have an irritable fibre; more especially hysterical and epileptic patients. In them it is the least fatal, and seldom terminates in palsy. Yet a mortal epilepsy ends universally in the apoplectic stroke.

I am inclined to think that there is some kind of spasmodic stricture, when, as frequently happens, apoplexy is consequent on the sweating of the feet imprudently repressed, or any herpetic eruption checked; or from the irritation of *worms* in the alimentary canal, as in the *apoplexia verminosa* of Sauvage.

The same observations may apply to apoplexy, when it arises from affections of the stomach.

Dr. Fothergill gives some countenance to this opinion; for, as it appears by the London Medical Journal, he attributes the apoplectic stroke, in some cases, to a distended stomach and to overloaded bowels: and Van Swieten, in his commentaries, § 1017, not only delivers the same doctrine, but gives an instance of a friend who was cured by a copious and spontaneous vomiting.

In confirmation of this idea it may be observed, that many are seized with apoplexy after having fed voraciously at a venison or a turtle feast.

The injury, in my opinion, does not arise so much from distention of the stomach creating a pressure on the aorta, as from the stimulus of food, and sympathy; because it happens not merely during sleep, when the glutton is lying on his back, but whilst the body is erect, and before the gorged morsels can ferment.

Carus may derive its origin from the same cause with spasmodic apoplexy.

Of this, combined with lethargy, we have a curious case in Hoffman.

A MAN aged 66, thin, yet plethoric, and accustomed to bleed twice a year, had omitted this evacuation for twelve months, when, from terror, he was siezed with coldness in his extremities, oppression and difficult respiration, yet his face continued bloted and red. Soon after this attack he had pain in his head, heaviness, vertigo, lethargy.

In this condition he undertook a journey, but he was unable to proceed, being prevented by so profound a sleep, that for four days he could neither stand nor open his eyes.

At length being roused, he found great languor, prostration of strength, and perpetual desire of sleep. He breathed freely, but his pulse was oppressed. He had no appetite, was costive, and made little water.

The Professor, in these circumstances, bled him largely in the foot; gave him a laxative antispasmodic clyster; recommended the warm pediluvium at night; applied spirit of hartshorn to his nostrils; and ordered him to take sal volatile with a tincture of antimony; by which treatment he was soon restored to health.

In other cases the Professor removed similar affections by antimonial emetics.

That in sanguine apoplexy there is really distention of the vessels, producing rupture, extravasation, and pressure on the brain, is clearly proved by the flux of blood and serum from the nostrils after death, as well as by multiplied dissections. Dr. George Fordyce is of opinion, after having examined the brains of ninety eight apoplectic and paralytic patients, in all of which he discovered extravasated blood, that this is the most common cause of these diseases, and John Hunter perfectly agrees in this opinion.

From the operation of remote causes, as already stated, the existence of such a congestion can be readily conceived, when we consider, that one tenth nearly of the blood circulates with great velocity in the vessels of the brain, and that these are tortuose, minute, and not, as in other parts, defended by strong membranes.

Indeed rupture and distention would more often happen, were it not for a most provident contrivance well known to the anatomist, by which the blood is checked and retarded as it approaches to the brain.

Carus, as a slighter sanguine apoplexy, is attendant upon fevers chiefly of the intermittent species; or it may be induced by passions of the mind.

In

In this there is some perception, but not of long continuance; some sensation, yet small.

The patient seldom awakes spontaneously, and, when with difficulty roused, soon sleeps again.

The epidemical Synocha of 1673, described by Sydenham, was attended in younger subjects, by *delirium;* in adults by *carus*, during which the patient slept for some weeks, or, as it appears, from 28 to 30 days, and so profoundly that they could scarcely be roused to take their usual drink or medicines.

This symptom was frequently induced by warm sudorifics, and relieved or rendered safe by bleeding and refrigerant clysters.

Carus may be brought on by extreme intoxication.

Van Swieten tells us of a man, who in a drunken fit slept four days, and awoke only as two surgeons, having shaved his head, were preparing to trepan him.

SECTION IV.

Indications of Cure in Sanguine Apoplexy and in Carus.

These are,

1. *To diminish the pressure on the brain.*

2. *To restore tone to the debilitated vessels of the brain and to the system in general.*

The first intention may be answered,

1. By copious bleeding from the jugular veins, from the arm, and from the temples.

The relief received, together with the fulness, hardness, and frequency, of the pulse, must determine the practitioner as to the propriety of repeating the bleeding.

2. By *carminative clysters* and *moderate cathartics*, such as senna, rhubarb, nitre, or soluble tartar, with tamarinds and some kind of aromatic water.

℞ Decoct. Avenæ tenuis. ℔ j.
Flor. Chamæmel. m. 1.
Sem. Cumin. un. ½.
Coque & colaturæ adde Olei Olivar. un. 1.
Sacch. dr. 3. M. f. Clysma.

That

That is,

Take thin oatmeal gruel one pint, chamomile flowers a handful, cumin seeds half an ounce; boil and strain. Then add olive oil one ounce, sugar three drams. Mix for a *clyster*.

℞ Tamarind. un. 1. Coque in Aq. font. ℔j.
et colaturæ adde
Rhei; Kali tartarisat. āā dr. 2.
Aq. Cinnamom. un. 1. M.
C. un. 3. alternis diebus mane.

That is,

Take tamarinds one ounce; spring water a pint; rhubarb and soluble tartar, of each two drams; cinnamon water one ounce. Mix. Three ounces to be taken every other day, in the morning.

℞ Rhei;
Kali tartarisat. āā scr. 1.
Pulpæ Tamarind. q. s. f. Bol.

That is,

Take rhubarb and soluble tartar, of each one scruple; the pulp of tamarinds sufficient to make a bolus.

It must be here remarked, that during the paroxysm, to prevent the accumulation of blood in the vessels of the brain, the patient must be supported in a chair, and his apartment must be preserved cool.

The second intention is chiefly prophylactic.

This may be answered by temperance, cool air, and constant exercise, with gentle tonics and astrigents; but more especially by avoiding whatever has a tendency to induce debility, and paying particular attention to preserve the feet from cold.

Spasmodic apoplexy being merely a variety of the sanguine, the indications of both will coincide; but the method of answering those intentions will not be perfectly the same.

The spasmodic certainly does not admit of bleeding to the same extent as the purely sanguine, for which reason the young practitioner must pay particular attention to the pulse, the countenance, and the respiration, whilst the blood is flowing; and, if the symptoms are not aggravated, he may proceed with confidence.

In this form of the disease, to diminish the pressure on the brain, it will be needful to resolve the spasm which causes the termination to that vital organ.

This intention may be answered, after bleeding, by removing

moving the occasional cause of spasm. If the spasm is occasioned by viscid mucus, bile, or indigested sordes in the stomach; an emetic may be given.

If the cause is in the bowels, they may be safely evacuated by the carminative clyster already mentioned, to be repeated soon if needful, or at the distance of some hours.

If it be *worms*, anthelmintics will destroy them.

In this form of apoplexy, the legs should be plunged into warm water, which will both relieve the spasm and make a derivation from the head.

SECTION V.

Of Serous Apoplexy, and of Lethargy.

The specific symptoms are, a pale and bloated countenance; a weak and languid pulse; sleepiness and torpor; coldness in the extremities; loss of memory, and decay of faculties; slow speceh; shortness of breath during motion; swollen and watery eyes; scarcity of urine, and universal tendency to dropsy; with other symptoms marking its gradual approach more certainly than that of the sanguineous.

The persons most liable to the attack of serous apoplexy are, such as are of a relaxed habit; dram drinkers; the aged and infirm; the indolent and sedentary; the studious, who grow pale over their books; and such as have been worn out by grief, more especially if confined to damp and gloomy habitations.

As to the occasional causes, they are in some measure the same with those already mentioned in sanguine apoplexy.

Yet here it may be remarked, that the sanguine may produce the serous, as the natural consequence of a preternatural afflux and congestion of blood in the vessels of the brain.

And, moreover, it has been frequently observed, that either ischuria or the untimely suppression of copious evacuations from the salivary glands, or even the sudden drying up of ulcers, have produced the same effect.

It

It is sometimes relieved by fever; at other times by spontaneous purging of watery humours: but it most frequently terminates in palsy.

That, in such cases, there is really an effusion of serum in the ventricles and sinuses of the brain, has been evinced by numerous dissections.

Lethargy is a slighter kind of serous apoplexy. In this the patient sleeps almost incessantly, for although he may awake spontaneously and easily be roused, yet he soon forgets what has been said, appears void of animation, and slumbers instantly again.

It sometimes succeeds phrenitis, and usually terminates in apoplexy.

SECTION VI.

Indications of Cure in Serous Apoplexy, and in Lethargy.

THESE are,

1. *To remove the pressure on the brain, as the proximate cause.*

2. *To obviate debility, as the predisposing cause.*

3. *To avoid the occasional causes of the disease.*

To answer the first intention we have recourse,

1. To blisters on the head, and to antimonial *emetics*.

℞ Antimon. tartarisat. Mercur. vitriolat. āā. gr. 5.
M. pro Emetico.

2. To clysters, and to powerful cathartics, such as aloes, jalap, scammony, colocynth, and calomel.

℞ Decoct. avenæ, ℔j.
Ol. Oliv. ʒj. Salis Marin. ʒij.
M. f. Enem. p. r. n. inj.

That is,

Take oatmeal gruel one pint, olive oil an ounce, common salt two drams, for a clyster.

℞ Aloe soc. Colocynth. Scammon. āā. gr. 10.
Jalap, Calomel. āā. gr. 30.
Syr. Simp. q. s. f. Pil. N° 40.
c. 2. alternis diebus mane.

That is,

Take succotrine aloes, colocynth, and scammony, of each ten grains; jalap and calomel, of each thirty grains; syrup of sugar a sufficient quantity. Make forty pills, of which take two every other day, in the morning.

℞ Calomel.

℞ Calomel. gr. 10. Jalap, gr. 15.
Zinzib. scr. 1. M. mane sumend.

That is,

Take calomel ten grains, jalap fifteen grains, ginger one scruple. Mix, and take it in the morning.

Sir John Pringle was accustomed to prescribe these medicines, but in a more elaborate form.

℞ Resin Jalap. Amygd. dul. ãã. gr. 12. terantur simul, paulatim affundendo Aq. font unc. j. fiat Emulsio; Colaturæ, adde Gum Tragacanth. gr. 5. Calomel gr. 8. Sacch. alb. dr. ½. M. fiat haust. statim sumend.

3. To diaphoretics, and more especially to diuretics of the stimulant order, such as the balsams and terebinthinates, or rather ammonia combined with æther, in equal parts, to the amount of from a dram to four scruples three times a day.

Setons in the neck are useful.

To answer the second intention *tonics* and *astringents* must be resorted to, such as bitters and the Peruvian bark, but especially combined with steel.

℞ Quassiæ, dr. 1.
Cassiæ Lig. dr. ½.
Aq. bul. un. 8. M. fi Infus.
Colaturæ un. 3, adde Cinchon. scr. 1.
M. c. o. 8a. horâ.

That is,

Take quassia one dram; cassia lignea half a dram; boiling water eight ounces. Make an infusion. Strain it; and to three ounces of the infusion add one scruple of Peruvian bark for a dose, to be repeated every eight hours.

℞ Cinchon. un. 2.
Limat. ferri, dr. 3.
Valerian. dr. 4
Syr. Zinzib. q. s. f. Elect.
c. M. N. M. ter in die.

That is,

Take Peruvian bark two ounces; steel filings three drams; valerian half an ounce; syrup of ginger sufficient to make an electuary. Take the size of a nutmeg three times a day.

All the astringent formulæ from 76 to 83 in my Compendium will be useful.

During the paroxysm, I would wish to recommend he inspiration of *oxygen air*.

Dr.

Dr. Woodford, of Bristol, has communicated a case of *serous apoplexy*, in which his judicious preceptor Dr. Gregory discovered that acuteness of discernment for which he is justly distinguished as a medical practitioner.

C. D. labourer in Edinburgh, aged 51, addicted to the drinking of spirits, was admitted into the Royal Infirmary with anasarca and ascites.

A few days after admission, the anasarca in the inferior extremities suddenly receded, and presently after, the face having swelled, symptoms of Coma appeared, which gradually increased to a perfect apoplexy.

Dr. Gregory directed the head to be shaved, a blister to be applied, and two or three doses of a strong cathartic, composed of jalap and calomel, to be administered; by which the patient was speedily relieved and soon dismissed.

Genus XXXV. Hydrocephalus Internus.

The pathognomonic symptoms are, in children, lassitude, a slight Pyrexia, pain in the head, a sluggish pulse, drowsiness, and dilated pupils.

SECTION I.

Of the Progressive Symptoms and Termination of Hydrocephalus.

In infancy, the sutures of the cranium open.

M. Petite, in the Memoirs of the Academy of Sciences at Paris, has remarked other symptoms at the commencement of this disease, which are worthy of attention.

These are, convulsive motions of the lips and eyelids; biting the lips; picking the nose; grinding the teeth; costiveness or purging; langour of the eyes; paleness; debility; heaviness, and depression of spirits; sleepiness, with perpetual moaning, and sometimes inability to support the head upright. He observes, that the disease comes on after *worms*, painful dentition, and violent convulsions.

To these symptoms Dr. Fothergill adds, nausea, short and

and disturbed sleep ; and, towards the close of the disease, urine and stool coming insensibly away ; the iris immoveable ; the heat great ; breathing suspirious ; the pulse trembling, and quick beyond the possibility of counting ; after which a spasm finishes the whole.

The patients of M. Petite died convulsed, and he found water in the brain.

SECTION. II.

Of the Class of Hydrocephalus.

Dr. Cullen could with difficulty satisfy his mind, where he should place this disease.

Boerhaave and Sauvage had arranged it under *dropsy ;* but he, dissatisfied, connected it with *apoplexy :* yet more modern practitioners seem inclined to consider it as belonging rather to the *Phlegmasiæ.*

I have left it where I found it. Time, and more extensive experience, must determine the respective merit of these nosologists.

Dr. Percival observes, that hydrocephalus derives its origin sometimes from inflammation, but most frequently from struma and laxity of fibre, inducing plethora, glandular obstruction, and feeble action of the lymphatic system, all which dispose to an effusion of water in the brain.

He remarks, that in such subjects, the vessels of the brain quickly lose their tone by distention, in consequence of which, torpor and debility of the whole system, follow.

SECTION III.

Of the Treatment of Hydrocephalus.

Many physicians of great eminence profess to have cured this disease by salivation, and their testimony should not hastily be called in question. Yet we must have leave to hesitate, when so respectable a practitioner as Dr. Warren, of Taunton, informs us, that in ten cases, which

which on dissection had proved to be hydrocephalus, he had tried mercury in vain ; and that neither by calomel, nor by mercurial ointment, could he procure a salivation.

The matter is rendered more dubious, when we consider, that many, who were cured by calomel, voided worms ; and that many patients, as appears by the testimony of Dr. Foart Simmons, physician of St. Luke's, who, on dissection, appeared to have water both between the pia mater and the brain and its ventricles, had yet, when living, no symptoms of hydrocephalus. And further, that one child, under the care of Dr. Warren, who had all the symptoms of this disease, had no water in the brain, nor any thing remarkable, except much viscid phlegm in the intestines.

The mode of application commonly adopted to induce a salivation has been, to rub in the weak mercurial ointment twice a day and to take calomel at night.

In this way Drs. Mackie, of Southampton, and Percival, of Manchester, succeeded in the cure of what appeared to be hydrocephalus ; after which they administered rhubarb and Peruvian bark, to restore the strength.

Genus XXXVI. Cataphora.

Catalepsy.

The symptoms are, sudden loss of sensation and volition : the body and the limbs constantly retaining the position which they had when seized, or which is given to them during the continuance of the fit.

Yet all these symptoms are subject to degrees of intensity.

The eyes are commonly open and fixed ; the pulse is natural ; the respiration easy ; the colour remains unchanged.

Women are more frequently attacked by it than men.

I had placed *cataphora* with Dr. Cullen under apoplexy ; but from the most accurate description of this affection,

affection, it does not appear to arise from pressure on the brain.

Hollerius, as quoted by Van Swieten, tells us, that he saw a man, who had alternate coma, epilepsy, convulsions, and catalepsy. And Hoffman saw the three last in a young woman.

Here, therefore, it seems to be allied to spasm.

It was brought upon a young woman eight days after she was married against her will, and attacked her as often as she saw, or even thought upon, her husband.

Terror has been known to induce it suddenly. Hence the beauty of the poetic image :

"*Obstupuit, steteruntque comæ, et vox faucibus hæsit.*"

Grief and disappointment, and even pious affections, have had the same effect ; and joy has both produced and cured it.

Profound meditation has been accused by Boerhaave, perhaps with reason, as one occasional cause of catalepsy ; and, by his commentator, intenseness of thought is considered as nearly related to it : but although men thus engaged can neither see nor hear, like Archimedes at the siege of Syracuse, nor yet move from the spot on which they stand, yet these symptoms alone do not constitute the disease in question.

He therefore quotes a remarkable case mentioned by Galen of a fellow student, who from deep reflection became suddenly so immoveable that, as he sat holding his pen, with his eyes fixed on his book, he seemed only to be absorbed in thought, till, by shaking and calling, they perceived that he had lost all sense and power of motion.

Stoppage of the catamenia has produced this wonderful disease.

Lambecius, attending the Emperor Leopold in one of his excursions, saw in the Ferol a young woman aged 25, who constantly twice a week, and at intervals every day, lost all sensation, even when needles were thrust into her flesh ; and wherever she was taken, remained immoveable like a marble statue, as if she had suddenly beheld Medusa's head.

Van

Van Swieten relates a most interesting case, of which he himself was witness.

A good woman aged about 40, of a rigid fibre, was toasting chesnuts in a frying pan; when, deprived of sensation, she became suddenly immoveable, till, in his presence, she threw up two living *worms* (teretes) after which she suddenly recovered, and continued toasting her chesnuts, without the least conciousness that any thing had happened. She had no relapse, but for years retained her perfect health.

Aetius makes mention of catalepsy relieved by a copious bleeding at the nose.

Hoffman conceives, that freezing first produces *catalepsy*, and then death. And that rapture or ecstasy is to be considered as allied to this affection.

SECTION II.

Indications of Cure in Catalepsy.

As to the indications of cure little can be said, because we know nothing of the proximate cause, and must, therefore, confine ourselves to this one point in every case, to investigate and to remove the occasional cause of this affection, whether it may be obstructed catamenia, worms, or both united, as in a case relieved by Hoffman. This learned proffessor says, that he has seen the most obstinate catalepsy cured merely by a change to *wholesome air*, and, with the utmost propriety, he adds, accounting for this effect, "*that one of its component parts uniting with the blood, communicates sensibility and motion to the solids.*" Vol. III. p. 49.

Let the student in this disease tread in the steps of Sydenham, who, when he met with a kind of fever which was new to him, remarked, "Nihil mihi itaque aliud jam restabat, nisi ut in hunc morbum nudum & ab aliis sepositum accuratissimò examine inquirerem, atque oculo adjuvantia & lædentia quàm diligenter maximè potui, semper intento, viam pro virili, exploratoris instar, prætentarem."

Genus XXXVII. Paralysis.

Palsy.

The pathognomonic symptom is, a loss of the power of voluntary motion affecting certain parts.

SECTION I.

Distinction of Species, with General Observations.

Professor Hoffman distinguished palsy into,

1. *Hemiplegia*, affecting one side.
2. *Particularis*, affecting some muscles only.

He made another distinction of little importance to the practitioner, dividing palsy into *vera* and *spuria*; the former attended by loss of sense and motion, the latter by loss of motion only.

Atrophy, and diminution of vital heat in the limb affected, are also sometimes attendant symptoms.

Senac, as quoted by Van Swieten, makes mention of a man, who had lost all power of motion in one arm, whilst the most exquisite sensibility remained in it; and was at the same time deprived of all sensation in the other, whilst the power of moving it was unimpaired.

In hemiplegia, the loss of sense and motion in one side is often attended by spasm and convulsive motion in the other; and, as the disease advances, the mental faculties, more especially the memory, are much impaired.

Hemiplegia and apoplexy have an intimate connection. The latter commonly precedes; and when the former terminates in death, it is universally by the apoplectic stroke.

The near approach of *hemiplegia*, when it is not the consequence of apoplexy, is commonly announced by vertigo and coldness of the side.

In a partial palsy, it is usual for a sense of weight and numbness to precede the stroke, and the part affected becomes flaccid, cold to the touch, and sometimes, as before observed, atrophic.

When

When the lower extremities are rendered paralytic, it is not uncommon for the bowels to be torpid.

Palsy of the hands and arms is frequently a symptom of the Colica Pictonum, that is, Colic of Poitou, or Rachialgia Metallica of Sauvage.

SECTION II.

Of the Causes, Remote and Proximate, of Palsy.

The proximate cause of palsy is, interruption of the nervous influence, which may be either by solution of continuity in the nerve of the part affected, or by compression either on the nerve or on the brain; and it is suggested by Professor Hoffman, that in the *paralysis spuria* the interruption is partial, but that in the *vera* it is total.

When treating of apoplexy, we took notice of two species, the sanguine and the serous. The same distinction will be needful in cases of palsy; because, the *hemiplegia sanguinea* and *hemiplegia serosa* have the remote causes different, and require different indications to effect a cure.

Hemiplegia sanguinea acknowledges the same causes, predisposing and occasional, as the apoplexia sanguinea, to which I must refer the student.

The persons most subject to this are, such as are of a sanguine temperament, with a relaxed and irritable fibre.

The predisposing cause is debility, and the occasional may be strong stimuli and spasmodic affections, causing a determination of blood, as in apoplexy, to the vessels of the brain.

Hemiplegia serosa attacks those chiefly who have a relaxed fibre and abound with serum, which is, therefore, easily separated from the blood; and those also in whom serous evacuations have been unseasonably stopped, or a salivation checked.

In such patients the pulse is weak and languid, the face

face is pale, and drowsiness with torpor mark its near approach.

It is most frequent in autumn and winter.

A partial palsy may arise from an affection of the spinal marrow, from fracture or luxation of the spine, or from any mechanical compression.

Of this, *paraplegia*, or the palsy of the lower extremities, may stand as an example.

Palsy is sometimes relieved spontaneously by fever or by diarrhœa.

SECTION III.

Indications of Cure in Palsy.

The indications of cure must be taken generally from apoplexy, whether sanguine or serous, with this reserve, that even in the *sanguine hemiplegia* bleeding, if not adopted early, must be omitted, for this reason, that the sanguine from distention without rupture becomes serous.

In all cases of inveterate palsy the powerful evacuants must be avoided, and gentle tonics with astringents must be given in their stead.

The bowels, however, must be kept soluble by mild and moderate cathartics, or by carminative clysters, as in the sanguine apoplexy.

The following medicines have been useful:

℞ Test. Ostre r ppt. Antimon. Calcinat.
Cort. Eleuther. ā dr. 2.
Ol. Cinnam. gtt. 8. M. f. Pulv.
c. dr. ½ alternis diebus. h. s.

That is,

Take testaceous powder, calx of antimony, and cascarilla bark, of each two drams; oil of cinnamon eight drops. Mix; and take half a dram every other night going to rest.

℞ Tinct. Lavend. un. 4.
Ol. essent. Lavend.
————Nucis Moschat, āā dr. 2.
Axung. porcin. un. 2.
Aq. Ammon. un. ½ M. f. Ung.
quo inungantur spina dorsi & pedis planta.

That

That is,

Take compound spirit of lavender four ounces ; essential oils of lavender and nutmeg, of each two drams ; hogs lard two ounces ; spirit of hartshorn half an ounce. Make an ointment for the back bone and sole of the foot affected.

It has been usual in palsy to try every kind of stimulus, externally and internally applied, such as cantharides, horse radish, mustard, garlic, spirit of hartshorn, guaiacum, aromatics, frictions, cold bathing, and hot bathing.

One stimulating power has, however, indubitable evidence in its favour, and comes to us recommended by the most eminent practitioners. That is,

Electricity moderately applied, and long persisted in.

Dr. Farriar says, that in electrifying patients for the palsy, he often remarked they received no benefit till red fiery eruptions were produced on those parts of the limb which were surrounded by the chain.

Let the student before he has recourse to it inscribe *festina lente* on his machine ; for small shocks invigorate, while strong ones exhaust the vital energy, and debilitate the system.

Emetics, and also cathartics, such as seneka, aloes, scammony, calomel, and jalap, have been likewise recommended ; and these, in certain species of palsy, such as the rachialgia, biliosa, and *serosa*, of Sauvage, may have been attended with success ; but in this practice, the sagacious physician will be guided by his own observations on the case before him.

Of late, the arnica montana has acquired much reputation in the cure of palsies, and from its sensible qualities, from its penetrating, bitter, aromatic taste, with some degree of astringency, it promises to be a useful medicine.

Since the year 1773, Drs. Stoll and Collins, of Vienna, have had repeated trials of its tonic power ; and the latter is said to have cured twenty eight cases of palsy, by giving either one dram of the extract, or from two drams to half an ounce of the flowers, infused in boiling water, every day.

In

In the south of Spain I found it highly spoken of by the most successful practitioners.

The practice of Dr. Marryot was in some measure peculiar to himself, yet he was remarkable for curing, although not skilful in describing, the several species of disease submitted to his care.

He gave in all case of palsy dry vomits, of blue vitriol and tartarized antimony ; and after these, cathartics of calomel with ginger.

He ordered blisters, and gave internally a teaspoonful of tincture of cantharides, with twenty drops of the tincture of muriated iron, twice a day ; or sometimes steel filings five grains, with either the same quantity of aloes, or a scruple of Peruvian bark, twice a day : and he recommended his patients to go into the cold bath every morning.

He caused the spine to be well rubbed with oil of amber twice a day.

The first part of this practice was certainly proper in *paralysis serosa ;* but the cold bath, unless rendered temperate, could be proper only for convalescents.

In such cases, therefore, the practice of Dr. *Vaughan*, of Leicester, is much more judicious.

He orders,

℞ Sal. Vol. scr. 2. Elect. Cardiac, scr. 1.
Cantharid. gr. 2. M f. Bol.
omni 3 horâ sumend. superbibendo Infus. Raph.
Rust. Sinapi. Valerian, & Canel. Alb.

That is,

Take sal volatile two scruples ; cardiac electuary one scruple ; cantharides two grains. Make a bolus, to be swallowed every three hours, with some infusions of horse radish, mustard, valerian, and canella.

He applies blisters to the head and the sacrum ; and he anoints the spine with a liniment of spirit of sal ammoniac and quick lime.

After these medicines, to convalescents, he orders aromatics, bark and steel, with cold bathing.

In all cases of palsy, continued rest of the affected muscles must be carefully avoided, because when brought into action, they will acquire strength by exercise.

This

This should be moderate, regular, and long continued.

Should the patient be obliged to sit, he may yet easily contrive to exercise both his hands and feet.

For this purpose, he will require only two pullies fastened in the ceiling of his room, at the distance of fifteen inches from each other, with a rope, passing over them, long enough to reach two treadles on the floor, and two bell handles, fastened at a proper height, on the depending ropes. By means of this machine, even a paralytic may, in the most distressing circumstances, contrive to exercise both hands and feet.

SECTION IV.

Cases of Palsy.

In my compendium of Nosology, I have introduced a species hitherto unnoticed by nosologists, and have called it *Verminosa*.

I met with it some years since in a lady resident at Bath, who had consulted many of the faculty without the least relief.

She was at that time under the care of Dr. Marryot, with whom I corresponded on this subject.

Not satisfied with knowing merely the nature of the affection, I was anxious to ascertain what had been the occasional cause; and after a vast variety of questions, to all of which she answered in the negative, observing the upper lip much swelled, I asked her if she had any itching in her nose? if she started in her sleep? whether she was apt to grind her teeth? whether she had noises in her head, a gnawing pain in her stomach, with a fickle appetite, costiveness, and more especially a foul breath in the morning. To all these questions she answered in the affirmative.

Having thus discovered that she had *worms*, and observing that she was of an irritable habit, I had little doubt remaining as to the cause of this disease.

I ordered anthelmintics, such as calomel and rhubarb, which brought from her a great number of worms, many of which were more than six inches long. And in the course of a few weeks every paralytic symptom vanished.

It is a satisfaction to find that other practitioners have had similar experience.

And I am pleased to see, in the Medical Communications of Dr. Duncan, that a Dr. Allix, of Frankfort, had, in a case of the same nature, cured the palsy by the use of anthelmintics.

I have already referred the student to Sauvage for *apoplexia verminosa*, and he is sufficiently aware that apoplexy produces palsy.

Hoffman, in his inestimable works, has left us many cases of paralytic affection submitted to his care, and cured by him.

Among these the most remarkable are,

I.—A MAN aged 40, with a red and bloated countenance, whose pulse was both full and frequent, even after many copious bleedings, and plentiful evacuations by carminatives, clysters, and cathartics of manna and nitre.

This patient was soon cured of *hemiplegia* by these evacuations, followed by Seltzer water, æther, nitre, tepid pediluvium, and strict temperance.

II.—A MAN aged 60, of a sanguine temperament, sedentary and plethoric, after having had a slight apoplexy, which was cured by bleeding, and by spirit of hartshorn with antimony and castor; this man had a *palsy* which was immediately and effectually relieved by bleeding only.

III.—A MAN aged 47, of a sanguine temperament, but of a relaxed fibre and debilitated habit, being, from stoppage of habitual perspiration, seized with a perfect *hemiplegia*, affecting the eye, the ear, half his tongue, and all the muscles, and even the pulse, of the right side, was cured by warm bath with antispasmodics which restored the perspiration.

IV.—A WOMAN aged 30, of a sanguine temperament subject to hæmoptysis and hysteria, and frequently attacked by apoplexy after either frights or fits of anger, having her menses stopped by terror, was seized with *hemiplegia* of the right side.

She was cured after venesection, by bathing in a chalybeate spring, which strengthened her pulse, increased the vital heat, and promoted perspiration.

V.—A WOMAN aged 50 and plethoric, after a stoppage of the hæmorrhoidal flux, being seized with palsy, was cured by warm pediluvium, bleeding in the foot, and moderate cathartics of rhubarb, nitre, and salt of tartar, exhibited three times a week.

VI.—A MAN aged 30 had palsy, induced by the colic of Poitou and attended by costiveness.

He

He was cured by oily fomentations, oil of almonds with cordial stimulants taken internally, and oily clysters.

The Professor mentions two cases which proved fatal.

The first was of a young man in high health and vigour, who, from the sudden influence of *terror*, was seized instantly with *paraplegia*, which, at the end of two years proved mortal.

The other was of a man aged 58, of a sanguineo-melancholic temperament, costive, irrascible, and thence subject to jaundice; who, by a violent fit of coughing, after a crumb of bread had passed into the aspera arteria, was seized with *hemiplegia* of the left side, attended by vomiting and convulsions of the right arm.

Lethargy supervened, and in one week he died.

Class II. NEUROSES.

Order II. Adynamiæ.

A diminution of involuntary motion in either the vital or natural functions.

In this order we have three genera:

Syncope, Dyspepsia, Hypochondriasis.

Genus XXXVIII. Syncope.

Fainting.

The symptoms are, the respiration and action of the heart, either cease or become much weaker than usual, with paleness of the countenance, coldness of the extremities, and a cold sweat usually about the temples.

SECTION I.

Of the Proximate and Remote Causes of Syncope.

The proximate cause of syncope is evidently, extreme weakness, or total cessation of action in the heart.

The predisposing cause is, generally speaking, debility and morbid irritability; for persons of an irritable fibre are most liable to syncope, and irritability we know is increased by dibility.

The occasional causes are numerous, and require a particular arrangement, that the several species may be properly distinguished.

SECTION II.

Of the distinction of Species in Syncope.

THE species may be called,

1. Cardiaca. 2 Cerebralis. 3. Pulmonea.

1. *Syncope cardiaca*, arising from organic affection of the heart.

It returns without any manifest cause, attended at intervals by violent palpitation of the heart.

It is incurable. Of this Dr. Monsey, Dr. Wathen, and Mr. John Hunter, died.

2. *Syncope cerebralis*, arising from diminished energy in the sensorium induced by,

a. Passions of the mind, such as horror, anger, joy, terror.

b. Deficiency of blood in the vessels of the brain, as in hæmorrhage; and after tapping, or long standing.

c. Flatulence in the stomach, worms, the stimulus of the gastric juice when the stomach is void of food, or perhaps inanition itself, and poisons.

d. Extreme pain, either exhausting the powers of life, or rendering the heart and arteries inirritable by the almost infinitely weaker stimulus of the blood. I have already stated that the muscles of a frog, immediately after decollation, are not susceptible of irritation; but in ten minutes after this, on pricking the toes, the legs, and thighs, and whole body, are violently moved.

e. Sudden cessation of violent pains, as after parturition, or the reduction of a painful dislocation.

f. An effort of nature to produce eruptions, or the menstrual flux.

g. Excessive

g. Excessive evacuations, fatigue after hard labour or protracted watchfulness, and fevers attended by debility.

h. Heat.

i. Offensive smells.

3. *Syncope pulmonea* or *asphyxia*, arising from deficiency of action in the lungs, which is induced by,

a. Drowning.

b. Strangling.

c. Suffocation.

This species of syncope was considered by Dr. Cullen as an apoplexy; but the symptoms and the proximate cause of this affection restore it to its proper place.

Dr. Goodwyn very properly calls it melanæma, and defines it "impedita sanguinis venosi in arteriosum conversio, cujus signa, syncope, & livor corporis."

Here the proximate cause of deficiency of action in the lungs is the exclusion of vital air, for as Dr. Fothergill has beautifully expressed himself, no sooner is the vital air, excluded, than respiration is suspended; respiration being suspended, the passage of the blood through the lungs is intercepted, and of course through the whole system. The action of the heart being impeded by the same cause, the circulation is suppressed. The brain, unsupported by the circulation, being unable to exert its influence, the mental and corporeal actions cease; the mind is no longer conscious of the state of the body; and the blood being deprived of its power of generating heat, coldness is diffused over the whole system. —Fothergill on the Suspension of Vital Action.

SECTION III.

Of the Treatment of Syncope Cerebralis.

In the fainting fit little need be done to excite the motion of the heart; because,

1. Rest or cessation of action has a natural tendency to accumulate irritability.

2. The chyle and lymph, by the peristaltic motion of the bowels, continue to flow into the subclavian vein and cavæ,

cavæ, whilst the venous blood, by the contraction of the arteries, is transmitted incessantly through the venæ cavæ to the right auricle and ventricle of the heart, which it stimulates to action.

Hence it is observed, that the right auricle and ventricle contract and dilate alternately for near half an hour after respiration ceases, and those of the left for more than twice as long.

3. The stimulus of blood in the right ventricle of the heart excites, by consent of parts, the expansion of the lungs.

To hasten the recovery it is expedient to admit, not a blast of wind, which might be injurious, but merely fresh air, which of itself is usually sufficient for the purpose.

This, however, will be rendered more efficacious by blending with it *oxygen air*, by sprinkling vinegar on the face, and by small electric shocks passed through the chest, to excite the action of the heart.

In case of syncope from loss of blood, no stimulants should be applied; because syncope is itself the most effectual remedy for hæmorrhage, and stimulants will, by exciting equally the nervous and arterial systems, increase the hæmorrhage.

Hysterical patients, who faint frequently even at the smell of the sweetest flower, require only to be left quiet till they recover of themselves; for we must always remember, "*quo levioribus causis & morbis, animi deliquia succedunt, eo minus alunt periculi.*"

Some practitioners have absurdly used the lancet, even in cases of debility, in which the vital energy has been exhausted by fatigue.

When our soldiers in America, after having been exposed during a march to fervent heat, were fainting, many were bled and died.

For immediate relief after the fit, if the syncope arose from passions of the mind, give wine or Hoffman's anodyne with some aromatic, such as a few drops of essential oil, either of mace or cinnamon.

Supposing it to have been induced by any acrimony in the alimentary canal, demulcents, anodynes, and correctors

rectors of the peculiar acrimony, must be combined together.

To prevent a relapse, attention should be had to the predisposing and to the occasional causes of this affection.

The latter must be avoided, and to obviate the former we must have recourse to tonics and astringents, to strengthen the habit und to brace the fibre.

One case of syncope, calling for speedy and powerful exertions, has hitherto escaped unnoticed, and proved fatal to many recovering from *small pox* and *Typhus*.

When the danger from fever has been over, and the patient has been raised in bed, or has risen before his strength has been sufficiently restored, the blood has suddenly deserted the superior regions of the body, and the miserable object has unexpectedly expired.

The same event from the same cause has been observed in consumptive patients.

In such cases brandy should be conveyed into the stomach, and, without loss of time, the lungs should be inflated with *vital air*.

The same conduct should be pursued when parturient women, and when hydrophic patients on being tapped, have suddenly expired.

It is very remarkable, that even hydrocele, if considerable, when evacuated, has produced faintness, syncope, and death; as it is reported to have happened in the case of Mr. Gibbon the historian.

SECTION IV.

Of the Treatment of Syncope Pulmonea.

WHILST the fœtus continues in the womb, the mother decomposes the *oxygen air* in the blood by means of *the placenta*, and supplies the vital heat. But no sooner is the little infant introduced into the world, than new arrangements are required; the foramen ovale closes; the lungs expand, and, attracting the *vital air*, supply at once the needful *oxygen* and *heat*, to stimulate the heart and to maintain the circulation of the blood.

But

But when, by either drowning, strangling, or by suffocation, this stimulus is wanting, a total cessation of action in the heart ensues, producing syncope, which, unless relieved, will terminate in death.

In this our first attention must be, to inflate the lungs and to *oxygenate* the blood.

Rabbits, mice, and Guinea pigs, have been confined alternately in *azotic air* and *vital air*.

In the *former*, respiration has been suspended, and the animals have been to all appearance dead; but no sooner have they been exposed to the action of *vital air*, than they have discovered signs of life.

The inflation of the lungs may be easily effected, in the case of still born infants, by blowing the breath forcibly into the mouth, whilst their nostrils are closed; and, in all cases above specified, with an instrument contrived by Dr. Curry, a young physician of distinguished merit, or, for want of this, the nozzle of a common bellows must be passed up one nostril, the mouth with the other nostril being closed, and the tongue previously pulled forward or pressed down to open the epiglottis.

Should this practice fail, bronchotomy must be performed; and, by dividing the two arytenoid cartilages, a passage must be made for the air into the lungs.

When *super oxygenated air*, or in defect of this, when atmospheric air, has been received into the lungs, every means should be attempted to stir up the vital embers.

The arterial system should be roused to action by electricity, passing gentle shocks through the chest in the direction of the heart, whilst the lungs are inflated, and before they have collapsed again. At the same time moderate heat should be applied to the surface of the body.

I say *moderate heat*, because strong heat would suddenly exhaust the powers of life.

A dormouse at the approach of winter sleeps. But if, in the spring, he be suddenly exposed to the same degree of temperature, as that which induced torpor in the autumn, animation is destroyed.

Thus precisely is it with the vegetable tribes, for they sleep

sleep in winter, and are awakened by the vernal sun; but die if too powerful heat be suddenly applied.

On this principle we may account for the destruction of plants by blight in summer; for unless there be frost at night there is no blight; and it may be remarked, that the blight does not take place during the action of the frost, but at the rising of a cloudless sun.

Hence it is that our garden crops, such as French beans and peas, which usually suffer most by blight after a frosty night in summer, suffer no injury if they are watered immediately before the rising of the sun, because the evaporation carries of the heat.

When the heart has once been made to receive the *florid blood*, it will be stimulated to new action, and the vital functions with the vital heat will be restored.

It will not, however, be sufficient to stimulate the heart and lungs, we must at the same time stimulate *the stomach*.

This may be effected by wine conveyed through Dr. *Monro*'s flexible tube into that vital organ.

Clearly to comprehend the purpose of these operations, the student should be well acquainted with the discoveries of the modern chemists.

I have said that wine must be conveyed into the stomach; but he should not be satisfied with being guided merely by the hand, without understanding the reason why such an application is attended with success.

In the use of medicines he must endeavour to ascertain their mode of operation; for while the rash empyric wanders in the dark, the cautious and rational practitioner will be anxious to investigate the path of nature, and to account for her proceedings before he ventures to prescribe.

I shall attempt therefore to throw some light upon a subject which is *new*, and therefore little understood.

It is well known that in nature's elaboratory, the vine, *wine* is composed of three ingredients, alcohol, water, and carbone; and that on the proportion of the former depends the strength or weakness of the wine.

Alcohol being highly combustible, it will be proper to observe,

observe, that in this, *combustion* is nothing but the combination, or chemical union, of *hydrogen* with *oxygen*, from which results a third substance, *water*; whilst the *heat*, which was in combination with the oxygen, escapes.

Alcohol itself contains some oxygen, but, by combustion, it takes still more from the atmospheric air; and thus by experience it is found, that sixteen ounces of alcohol, by combustion, produce eighteen ounces of water.

Pilatre de Rozier has frequently amused his friends by inhaling a large quantity of *hydrogen air*, which may be taken into the lungs without fear of injury, and then, applying his mouth to a tube, he blew out the air unmixed with atmospheric air, and fired it at the end of a tube, so that he appeared to breathe flame.

By this operation *water* was produced, which ascended in the form of vapour.

This *hydrogen air* he obtained from steam and heated iron.

In order to give a distinct idea of the quantity of *heat* arising from the combination of *hydrogen air*, I shall only mention, that one pound of this melted 295 pounds of ice, whereas in similar circumstances a wax taper, weighing one pound, melted only 133.

These observations I have presented to the student, in order to give him a clear and distinct idea of the substances which I have had occasion to mention; and by which he will see the strong affinity and chemical attraction between *hydrogen* and *oxygen*, the latter of which, as I have stated, is by the *lungs* derived from the atmosphere, whilst the former is conveyed into the system by the assistance of the *stomach*, and is most readily obtained from alcohol and wine.

So much for what has been discovered by the chemist with his retorts.

But it is time that we should return to the living retort, and consider by what laws the proportions are established between the *oxygen*, to be derived by inspiration

tion from the atmosphere, and the *hydrogen*, to be conveyed into the system by the action of the stomach.

In the Case of Bilious Autumnal Fever the student may remember having met with this remark, "*The attentive observer will take notice, that there is a certain proportion between the vital air received into the lungs and the quantity of food which can be digested in the stomach.*"

When I made that observation, I was not aware that the same had occurred to any one before me. But I have now the pleasure to see, that the same had occurred to Dr. THORNTON, as appears in his Thesis, and to Dr. BEDDOES, as is seen in his letter to Dr. Darwin.

He had been breathing air of a much higher temperature than the ordinary standard, such as contained almost equal parts of oxygen, and azotic, air.

"HIS SPIRITS WERE ELATED; HIS APPETITE WAS GOOD; AND HE EAT ONE THIRD OR ONE FOURTH MORE THAN BEFORE, WITHOUT FEELING HIS STOMACH LOADED."

It appears, however, that he pushed his experiment too far, and that he induced, by this quantity of *oxygen air*, symptoms of a fever.

Yet by the assistance of a diet, in which sweet oil, butter, and cream, bore a large proportion to the other articles, he soon recovered health.

The student must remember in the first place, that oil and butter contain no other substances than *carbone* and *hydrogen*, substances which have a strong affinity and chemical attraction to *oxygen*; and in the second place, from what, in the former part of this work, I have suggested on *respiration* and *digestion*, that in proportion to the quantity of food received into the stomach, if it abounds with *hydrogen*, the system covets *oxygen*, taking up a greater quantity of it by respiration from the atmospheric air, and ultimately expels them both combined in the form of *vapour*, when they have served the purpose, for which they had been received.

This balance is also beautifully illustrated by the experience of my friend Dr. THORNTON.

Mr. ———, Member for ———, laboured under such irritability of stomach, that upon eating, he was almost constantly seized with vomiting, and latterly it became so frequent, that nothing would stay on his stomach.

In this distressing moment, Dr. THORNTON was sent for. The *oxygen gas*, with a certain portion of *atmospheric air*, was inhaled, and the balance being made on the side of *oxygen*, Dr. THORNTON requested his patient to take some sustenance, which he had not done for many hours. Mr. ——refused it at first, as he was certain it would bring on him a renewal of his distress. But being persuaded by Dr. THORNTON and his apothecary, Mr. WOOD, to make the trial, he was pleasantly surprised on suddenly experiencing the power of vital air, and he declared himself convinced, from the experience he had of different medicines, that no other means could have produced the same effect. He continued free from sickness as often as the *air* in a diluted form was administered.

From these premises I trust it will be clear, why, in cases of asphyxia, we must not be contented merely with conveying *vital air* into the lungs, but at the same time *hydrogen* into the stomach, which powerfully attracts this substance so essential to vitality.

Bleeding has been recommended, but as the congestion is in the right auricle and ventricle of the heart, till the respiration is restored, venesection can give no relief.

Besides tension and tone being intimately connected, a diminution of the former would induce a similar diminution of the latter.

As therefore the stimulus bears proportion to the distention of the vessels, it would not be advisable to lessen the quantity of blood at the time when we wish to increase the excitement of the heat.

Frictions, as a powerful stimulus, may be advantageously employed when the circulation begins to be restored. For this purpose a hare's skin is best; but if only flannel is at hand, some kind of oil, well mixed, with half the quantity of camphor, will be proper, to promote the

the general intention, and to prevent the abrasion of the skin.

Genus XXXIX. Dyspepsia.

Indigestion.

The symptoms are, want of appetite; nausea; vomiting; flatulence; heart-burn; pain in the stomach; costiveness.

These are the common symptoms, of which the most remarkable, as being always present, is a disposition to flatulence. But as to want of appetite, it is so far from being present in all cases, that I have known many dyspeptic patients who, perhaps from the distention of their stomach and the stimulus of acescent sordes, have had a voracious appetite, and have indulged it without restraint.

SECTION I.

Of the Causes Proximate and Remote of Dyspepsia.

The proximate cause of this disease is certainly, relaxation in the muscular fibres of the stomach, in consequence of which viscid mucus is collected, and the quantity of gastric juice is diminished.

As to the predisposing cause, it is evidently a debilitated fibre, for persons of that description are most subject to dyspepsia.

The occasional causes of this disease are, indolence, intemperance in every shape, passions of the mind, intense application, unseasonable hours of repose, vitiated air and heat in crowded assemblies, hæmorrhage and excessive evacuations, the abuse of tea, and, as the most common source of this complaint, exposure to cold fogs. This may be evidently seen in Holland, and in the fenny parts of England.

I have observed the same disease prevailing in the northern parts of Spain, which are exposed to cold and damp; but I never saw it in the south.

All

All these causes tend to create and to increase debility.

SECTION II.

Of the Indications of Cure in Dyspepsia.

From what has been said, the indications of cure will readily present themselves.

These are, in the first place, to cleanse the stomach and the alimentary canal from viscid mucus, that you may act upon the living fibre.

The second is, to give tonics and *astringents*, such as the bark and steel.

These intentions may be carried on together.

℞ Pil. ex aloë c Myrrh scr. 4.
Kermes Mineral, dr. ½.
Limat. ferri, dr 1.
Syr. s. q. s. f. Pill. 32.
c c. 2 bis die.

That is,

Take Rufus's Pill four scruples; Kermes Mineral half a dram; filings of iron one dram; syrup a sufficient quantity to make 32 pills, of which take two twice a day.

Yet all the medicines, that can be administered, will be unequal to the cure, unless the mind be tranquil, and unless attention be given to avoid all the occasional causes of debility.

The dyspeptic patient must rise early, must be for ever in the open air, must use cold bathing, and must shun the crowd.

He must be pursuaded that a horse is the best physician, and that temperance of every kind, with reasonable dissipation and exercise in a dry healthy air, will do more for him than all the medicines in the world.

I remember, about thirty years ago, I had a friend, who was a hard student, buried among his books in a room of small dimensions for fourteen hours in the day. This was sufficient to create disease; but, in addition to this, he had an hæmorrhage, and lost many pounds of blood within the space of four and twenty hours.

Dyspepsia

Dyspepsia followed, such as I never witnessed in any patient, either before or since.

His flatulence was so great for three hours every day, after he had eat his dinner, that by this circumstance, independent of natural inclination and contracted habit, he was compelled to live alone.

From this disposition to flatulence, he was obliged to give up wine and all fermented liquors, with fat and butter, to abstain from vegetables, from tea, from sugar, and almost from bread.

He lived entirely on meats roasted almost to a chip, and toasted bread; whilst for liquids he was confined to brandy and water only.

Notwithstanding this degree of abstinence, the distressing flatulence continued, as long as he confined himself to his books and to his study, which was for two years complete.

He applied to many physicians, but in vain, till Dr. Whytt advised him to take three grains of James's Powder every night, five grains of rhubarb every morning, and *tonics* with *astringents* in the middle of the day.

℞. Cinchonæ, un. 4.
Gentian,
Cort. Aurant, āā dr. 12.
Sp. Vin. Gal ℔ 4 digere per 6 dies.
Capt. dr. 4 ad dr. 6 meridie.

That is,

Take Peruvian bark four ounces; gentian and orange peel, one ounce and a half; brandy two quarts; digest six days in a sand bath, and take half an ounce or six drams in the middle of the day.

It happened at the same time, that this gentleman had a favourite spaniel, who was always at his side. This faithful animal, who should have been ranging in the woods, being thus confined, was afflicted with a more deplorable disease, being troubled exceedingly with flatulence and *borborygmi*, from wind always in motion and grumbling through the colon.

With these symptoms of dyspepsia, poor Rover, for that was his name, from being sprightly, became remarkable for langour, want of energy, and depression of spsrits.

spirits. He was evidently jealous and suspicious, insomuch that, if any one called him by his name and spoke kindly to him, he lifted up his eyes, then dropped his eyelids, and slunk away to hide himself.

Happily at this period, some friends decoyed our student from his books, prevailed on him to get on horseback, to accept of greyhounds, and to go early to the field.

Rover followed with reluctance, but by degrees they both contracted a fondness for the sport.

The consequences were, such as might have been readily supposed, and were expected by his friends.

A long separation took place between our student and his books, and escaping thus from the occasional causes of debility, whilst he enjoyed the diversions of the field, with fresh air and exercise on horseback, he lost every symptom of disease; and his faithful Rover, participating in the same diversions, without the assistance of other tonics or astringents, regained his energy and spirits, no longer depressed by flatulence and depression of spirits.

If the student will recollect, what has been already said upon digestion, he will easily understand that a greater quantity of food being collected in the stomach, than can be quickly operated on by a diminished gastric juice, must ferment and produce that flatulence, which would not have subsisted without either such a deficiency in the solvent, or such superabundance of matter, to be digested and reduced to unfermenting fæces and to chyle.

He will likewise recollect, that the food is not always retained in the stomach till it is submitted to the action of that powerful solvent which nature has provided; but that part of it escapes through the pylorus, and, fermenting through the whole extent of the alimentary canal, there also produces distention.

Hence it must be clear that dyspeptic patients should eat frequently, and so much only at a time as they can digest it without flatulence.

It may be observed that, in my Compendium of Nosology, under *dyspepsia* we have many symptomatic species,

cies, which are to be relieved by curing the primary disease.

But as these likewise chiefly depend upon debility, the indications will be the same for both.

Genus XL. Hypochondriasis.

Low Spirits.

The symptoms are, dyspepsia, langour, and want of energy; dejection of mind and apprehension of evil, more especially respecting health, without sufficient cause; costiveness, and a melancholic temperament.

SECTION I.

Of the Melancholic Temperament.

Dr. Cullen has very properly observed in his Materia Medica, that *temperament* depends on the state of the simple solids, the state of the fluids, their proportions, the distribution of the fluids, and the state of the nervous power as to sensibility, irritability, and strength.

The strength of the nervous power, or, as I would rather choose to call it, of the *vital energy*, may be distinguished by the quantum, of power, which can be exerted in a given time, and the permanence of that exertion.

In the *melancholic temperament*, the hair is hard, black, curled; the complexion dark; the eyes black; habit meagre; strength considerable.

The mind is slow, grave, cautious, with little sensibility or irritability, but steady and inclined to obstinacy, rather disposed to sadness than to joy.

The simple solids firm and dense: blood rich; gluten abundant; heart torpid, but strong; venous blood more abundant than the arterial; the fibre not very irritable, nor soon exhausted of its vital energy; not disposed to spasm nor to involuntary action, by consent or sympathy with other distant fibres.

The sensations are not vivid, and the disposition is little inclined to pleasure.

The

The judgment is strong and capable of permanent exertion.

For the contrast of this temperament I must refer the student to *Hysteria*.

SECTION II.

Of the causes Proximate and Occasional of Hypochondriasis.

The proximate cause of this disease appears to be, torpor and deficiency of irritability. It is rightly therefore classed under the order of *Adinamiæ*, a word derived from the Greek, implying want of power.

It is properly the disease of age, and carries with it some of the symptoms of decrepitude. The same want of excitement and of energy, the same timidity and distressful anxiety about futurity.

Although it is properly the disease of age, yet, from accidental causes, it is sometimes premature, and when it is once established, without the aid of medicine it goes on constantly increasing.

The occasional causes, according to Professor Hoffman, are,

1. Cold and humidity, with coarse diet of difficult digestion, as may be particularly remarked in the fenny parts of Lincolnshire, but more especially in Friesland, where the poor seldom taste wheaten bread, but live principally on the legumina and milk.

2. Indolence and inactivity, with close application, as in the studious.

3. Anxiety and protracted grief.

4. Previous diseases, and particularly intermittent fevers, when removed by powerful astringents, without cleansing the intestines.

Dr. Whytt mentions six occasional causes of hypochondriac disorders :

1. Wind. 2. A tough phlegm. 3. Worms in the stomach and bowels. 4. Aliments improper in their quantity or quality. 5. Schirrous or other obstructions in the viscera of the lower belly. 6. Violent affections of the mind.

These

These eminent professors, equally distinguished for the extensiveness of their practice, and the acuteness of their observations, will, between them, enable us to complete the pathology of this disease. The four occasional causes noticed by HOFFMAN, induce relaxation and debility in the alimentary canal, where he places the seat of the complaint; hence *tough phlegm* accumulates, producing worms and flatulence, with costiveness and all the symptoms of hypochondriasis, in the manner pointed out by Dr. WHYTT. For he most judiciously remarks, "when much phlegm is collected in the stomach and intestines, their nerves are rendered less sensible of the stimulus of the aliments, their absorbent vessels are partly obstructed, and the gastric and intestinal lymph are more sparingly secreted, or at least become more viscid."

If the student recollects, what has been delivered in the fomer part of this work on the digestive process, he will readily understand, why the diminution or depravation of the gastric juice produces flatulence: and in Dr. Whytt's incomparable Treatise on Nervous Disorders, he will find, that tough phlegm in the alimentary canal has in some circumstances a stimulant, in others a sedative, effect.

From multiplied observations, I have been long since persuaded, that hypochondriac torpor originates in viscid mucus, and I have lately been confirmed in this idea by seeing a patient of the melancholic temperament, whose pulse, at the age of about fifty-six, beat only from 45 to 50 in a minute.

The physician, who attended him, did me the honor to acquaint me with the circumstance already mentioned, and informed me, that, neither by steel, nor by the most powerful cordial stimulants, could he excite the system, or increase either the pulsation of the artery or the vital heat.

I suggested the idea, that the reason why he could not excite the system was, that in the intestines there was something *interposed* between his medicines and the animated fibre. He was pleased with the idea, and determined to cleanse the alimentary canal from viscid mucus; but before he could adopt this plan, the patient died.

Having an opportunity to talk with his apothecary, I discovered that this gentleman had long been subject to hypochondriasis and to asthma, that he had been almost in the daily habit of taking squill vomits, which always brought off from his stomach, and frequently procured by stool, a quantity of tough and viscid phlegm, and that prior to his last attack of asthma, the complaint for which he consulted his physician, he had for a considerable time omitted his emetics.

The most distressing case I ever met with of this disease, was in the parish of St. Agnes, in Cornwall.

THE patient was near seventy years of age. With every symptom of hypochondriasis, she had confined herself wholly to the house, and mostly to her bed, for twenty years.

This miserable object, having heard that I had been so fortunate as to relieve some patients, requested often that I would visit her. At length I went. I found her in a miserable cottage, situated in the midst of a bleak and barren heath; confined to a wretched bed, in a kind of cock-loft, with scarcely light enough to make her visible. When I drew near I saw her sitting up in bed, but though she wished to see me, she had not energy enough to lift up her eyes, and direct them towards the place where I was standing

When I asked her any question, she was long before she answered, and every word seemed to come reluctant from her lips.

The same torpor having extended to her bowels, I found her costive, and, from defect of irritability in the arterial system, her pulse was feeble, languid, and only forty in a minute. The case was desperate, and no medicine gave relief.

There seems to be a particular *consent of parts* between the LUNGS and the whole of the ALIMENTARY CANAL.

I have already noticed this consent, as far as relates to the stomach and the lungs in respiration and digestion, but I must here be permitted to remark, that *hypochondriasis*, in which disease I have ventured to suggest a viscid mucus as lining the intestines, may be to this circumstance indebted for universal torpor and depression of spirits, for the feeble and the languid pulse, and for the want of vital heat.

My reason for such a supposition is simply, that, as far as my observation goes, no sooner are the bowels, by a judicious

judicious treatment, freed from viscid mucus, than the vital heat returns, the pulse acquires increasing frequency and strength, torpor is removed, and the spirits rise to their accustomed level.

If to such patients we administer the substances which abound with hydrogen, and therefore make the blood powerfully attract the *vital air*, all their symptoms are relieved ; or, if we make them inspire air enriched or supersaturated, if I may so express it, with *oxygen gas*, it has the same effect ; a genial warmth is diffused over the whole system, the pulse is raised, and the spirits are revived.

Pure atmospheric air, supersaturated with *vital air*, has been proved, by the experiments of Mr. ARCHARD, of *Berlin*, and the extensive practice of Dr. THORNTON, of London, to be such a *powerful exciting tonic*, that patients, from the most distressing anxiety and gloom, have, by inspiring this, been rendered, in a short space of time, serene and cheerful ; their appetite has been restored, and their digestion quickened.

The last time I was in town, I saw a patient of this cast recover very surprisingly under the care of Dr. THORNTON.

Mr. RUSSEL, an engraver, who lives in Constitution Row, Gray's Inn-Lane, had been many years in so desponding a state, that latterly he could not even bear the innocent mirth of his numerous family. He was nearly incapacitated from his employment, and as he had tried bark, steel, and other tonic medicines, without benefit, he entertained but little expectation of recovery.

He had a cough in the morning, was of a costive habit, had frequent and violent head-achs, and passed for the most part restless nights, or, when he slept, he was troubled with frightful dreams. Being emaciated and looking very sallow, he was conceived by every one to be in a deep decline.

Dr. THORNTON, with that propriety which pervades his practice, gave him first an emetic, then a gentle cathartic, and after that, he united all the tonic powers to recover him ; as, the inhalation of oxygen air, diluted with a portion of atmospheric air ; bark, with a tincture of the same ; and columbo root ; a more generous diet ; exercise ; and the amusement of company. He cautioned him, for the easy passage of food (as the motion of the stomach is from left to right) always to lie on his right side.

He

He gave him occasionally an emetic or cathartic, and, under such judicious treatment, he was in a very short time restored to apparent health.

The use of the *vital air* was then left off, but this stimulus was found so essential to his recovery, that his food immediately sat heavy on his stomach, and his appetite failed him, and his spirits flagged, though he continued all the other tonic remedies. He had recourse, therefore, again to the inhalation of a *factitious atmosphere*, and the same benefits accrued to him as before.

In about six weeks, after several relapses, and being as often relieved by breathing the *vital air*, he was finally restored, and has since continued in the enjoyment of perfect health.

SECTION III.

Of the Indications of Cure in Hypochondriasis.

If I am right in the ideas I entertain of this disease, the indications of cure must be,

1. *To cleanse the alimentary canal from viscid mucus.*
2. *To administer tonics with the stimulant astringents.*
3. *To join with these, the inhalation of vital air mixed with atmospheric.*

These indications coincide with those of Hoffman and Dr. Whytt, and, in some measure, with those of Dr. Cullen.

1. The first intention may be answered by,

a. Emetics.

These may be given frequently without fear of increasing debility.

They remove a depressing load, open the pores, and, by general concussion, tend to remove obstructions in the minuter vessels.

℞ Pulv. Ipec. gr. 8.
Antimon. tartarisat. gr. 2. M.

That is,

Take ipecacuanha eight grains, tartarised antimony two grains.

b. Cathartics.

These may be rhubarb with soluble tartar, of each about ten grains; or a small quantity of aloes may be admissible, combined with asafœtida, with gum ammoniac, or with gum guaiacum, to be taken every night.

℞ Rhei.

℞ Rhei. Kali tartarisat. āā gr. 10. M.
h. s. s.
℞ Pil. ex. Aloë. cum Myrrhâ, gr. 15. ad. scr. 1.
h. s. s.
℞ Pulv. Aloët. c. guaiac. gr. 15. ad. scr. 1.
h. s. s.

In cases where the bowels have been more than commonly torpid, I have given to advantage from three to eight grains of calomel at night, to be carried off in the morning by the following :

℞ Infus. Sennæ tartarisat. un. 2.
Kali tartarisat. gr. 12.
Rhei, gr. 8. M.
Mane sumend.

That is,

Take infusion of senna two ounces, with soluble tartar twelve grains, and rhubarb eight grains. Mix.

II. The second intention may be answered by *astringents*, more especially steel filings, which are certainly preferable to Peruvian bark alone in torpid habits.

The myrrh and steel are recommended by Dr. Griffith ; and, as already particularly mentioned in phthisis, may be given to advantge.

Or,

℞ Cort. Angustur. un. 1.
Ferri tartarisat. dr. 2.
Pulv. Myrrh. compos. dr. 6.
Zinzib. dr 4.
Syr. Cort. Aurant. q. s. f. Elect.
M. N. M. bis die sumend.

That is,

Take angustura bark one ounce ; tartarised iron two drams ; compound powder of myrrh six drams ; ginger half an ounce ; syrup of orange-peel sufficient to make an electuary. Take of this the size of a nutmeg twice a day.

Or any of the formulæ 77, 78. 80. 82, 83. of my Compendium my be used.

Dr. Marryot was accustomed to combine the tonics and cathartics with some *antispasmodic* in the same prescription ; and I have found this, after having once cleansed the alimentary canal, to answer both intentions.

℞ Asæ fetid. dr. 1.
Aloë soc. Limat. ferri, āā scr. 2.
Syr. Zinzib. q. s. f. Pil. 24.
Capt. Pil. 2. mane & vespere.

That

That is,

Take asafœtida one dram; socotrine aloes and steel filings, each two scruples; syrup of ginger sufficient to make twenty four pills, of which take two morning and evening.

The warm pediluvium is of service.

Regular exercise, change of scene, cheerful society, amusements, and constant yet agreeable occupation of the mind, are indispensable in the cure of this complaint.

All the occasional causes must be carefully avoided, but more especially *solicitude*, which can be effectually banished from the mind only by that confidence which Christianity inspires.

Class II. NEUROSES.

Order III. Spasmi.

A morbid motion or contraction of muscular fibres.

SECTION I.

Of Irritability.

Motion, as far as we are acquainted with the laws of the creation, appears to be produced by four several causes, *attraction*, *repulsion*, *irritation*, and *volition*.

Lifeless, inorganized matter is governed in all its motions by the laws of attraction or repulsion.

Vegetables are subject chiefly to the laws of irritation.

Animals are equally with vegetables subject to the laws of irritation; but, rising above the vegetable tribes, we see them endued with a superior power, that of voluntary motion.

It is of motion, as caused by *irritation*, I am now to treat; and in the prosecution of this subject, let us begin with the motion of the sap in plants.

If the student will consult that incomparable work, the Vegetable Statics of the Rev. Doctor Stephen Hales, chap. iii. he will be convinced, that the rising of the sap in plants is not produced either by rarefaction of

of the external air, or by capillary attraction, as was formerly imagined, but by *irritation* from the stimulus of light and heat, increased perhaps by the motion of the sap itself as it ascends.

The Doctor tried his experiments chiefly on the vine, by cementing to its mutilated stump glass tubes, each seven feet long and a quarter of an inch diameter, with brass caps, by which they were screwed on one above another, till they rose to the height of six and thirty feet.

At other times he used inflected tubes, each with columns of mercury to be put in motion by the ascending sap.

In the former, the sap ran over : in the latter, the mercurial gage stood at 38 inches, which he reckoned equal to the pressure of more than 43 feet of water

To one thriving branch, in a prime bleeding season, he fixed tubes to the height of 25 feet, and in two hours the sap flowed over.

By these gages it appeared 1st, that the sap began visibly to rise March 10, when the thermometer by day stood only at three degrees above the freezing point ; 2dly, that April 18 it was at its height and vigour ; 3dly, that from that time to May 5, the force gradually decreased ; 4thly, that it constantly rose fastest from sunrise to about 9 or 10 in the morning, and then, unless the day was cloudy, gradually subsided till about 5 or 6 o'clock in the afternoon, after which it slowly rose again : but on a cool and cloudy day it subsided only from about 12 o'clock to 2 in the afternoon.

If in the morning, while the sap was rising, and a cold wind blew, the sun was clouded, the sap would immediately begin to sink at the rate of an inch per minute, but when the sun shone out, it rose again. Moisture and warmth made the sap most vigorous, more especially after cold weather, causing it to rise all day, although slowest about noon.

It rose likewise sooner in the morning after cool weather, than after hot days.

In the beginning or middle of the season, if warm weather

weather had made the sap flow vigorously, that vigour would be immediately much abated by cold easterly winds.

When the tube was fixed to a very short stump of a vine, without any lateral branches, and at only seven inches from the ground; the sap flowed incessantly and fastest of all in the greatest heat of the day, sinking only after sun-set.

The further the tubes were fixed from the root, for instance on the extremity of a branch, at the distance of 44 feet 3 inches, the higher the sap was raised and the longer it continued to flow, perfectly agreeable to a common observation, that in wall-trees the most distant branches draw hardest and receive most nourishment.

The oldest branches were soonest affected by a change of temperature, and in them the sap first began to sink.

July 4, whilst in one vine, which was planted in a pot, sap was rising, and a considerable quantity was daily pressing through the stem, to supply the evaporation from its leaves, which amounted to many ounces in the day; another vine, being cut off within three inches of the ground, was so far from emitting sap, that it imbibed water from the tube at the rate of one foot per hour; thereby demonstrating, that the sap in the former vine rose by the stimulus of light and heat, and not by trusion from the root.

When the sap was flowing with the greatest vigour, the stems did not dilate, as they evidently do by rain, which enters by the perspiring pores.

This makes it clear, that the sap passes through its proper vessels, and that it is confined by these.

From all these observations and experiments is it not clear?

1. *That the stimulating powers are light and heat.*

2. *That the irritability of plants is greatest in the spring and least in autumn; and that being accumulated during the night, it is exhausted, in some measure, before the middle of the day.*

By various experiments of Dr. Hale's, compared with those of Dr. Ingenhousz, it is evident, that vegetables in summer,

summer, whilst they enjoy the sun, are incessantly decomposing water, and emitting from their leaves its oxygen, combined with caloric, in the form of *vital air*. And it is clear, that as long as water is supplied abundantly, they not only preserve their vigour, even at midday with the most fervent heat, as in the south of Spain, but make a rapid progress in their growth, and emit a proportionable quantity of vital air. May we not infer from thence, that their *irritability* depends on *oxygen* and *heat*, and their *vital energy* on a plentiful supply of these reviving elements, whilst the *hydrogen* of the water not only supplies the combustible part of vegetables, but, by depositing its *caloric*, maintains the vital heat ?

That the motion of the sap depends on *irritation* will be still more evident, if we consider the effect produced by insects ; for wherever they have deposited their eggs, the part begins to swell.

This I have particularly remarked at Alicant, in the *quercus coccifera*. It was evident likewise some years since in Cornwall to a great extent in the barley, and to an alarming degree in America, where the wheat, in some districts of the middle provinces, was totally destroyed for several years, by having the eggs of insects lodged in the stems.

This effect may be particularly noticed in the gall nuts, growing on the oak ; and at the present moment I have a striking example of it in my garden, where several branches of sweet briar have bunches, of from one to three inches in diameter, solid within, excepting the small chambers, in each of which is a little maggot, but externally covered, as it were, by moss.

That insects *irritate* the plant, on which they fix, is clear ; because in a green house, when the lice, as they are called, are numerous on the leaves, the irritability is soon exhausted, and the plant quickly dies.

In such circumstances, when I have washed my greens with a strong infusion of bear's foot *(Helleborus fœtidus)* the lice have been destroyed, and the plants have speedily recovered.

Vegetables have various motions, which evidently de-

pend on their irritability, and the stimulus of light and heat.

To this must be attributed the motion,

1. Of the branches, when they stretch toward the light.

2. Of the whole flower, when it follows the motion of the sun.

3. Of the petals, when they close, either, as the *hibiscus*, at midday, or as others before the setting of the sun.

4. Of the leaves, when like the *hedysarum* gyrans, they turn their upper surface to the sun.

Some parts of the flowers have peculiar motions, designed to propagate the species, when either the stigma inclines towards the stamina, or the stamina embrace the stigma, which is more fully explained in Dr. DARWIN's Loves of the Plants, and in Dr. THORNTON's magnificent explanation of the Sexual System of Linneus.

This operation once performed, the stamina, exhausted of irritability, immediately begin to droop and die, precisely as the male locust, and indeed the males of most insects die the instant they have impregnated the female.

Many plants are said to move their stamina, on their being punctured with a pin, even when they are separated from the flower.

Other motions, evidently caused by stimuli, prove the irritability of plants in which those motions are observed.

Such every one has noticed in the several species of *mimosa* or sensitive plants, in the *averrhoa* carambola, the *onoclea* sensibilis, and the *oxalis* sensitiva, but more especially in the *dionæa* muscipula, or venus fly trap.

Should Drs. Girtanner, Gahagen, and Thornton, pursue the experiments they have successfully begun, or should other philosophers, with the same ardour of inquiry, take up this subject; we shall then be able to ascertain a fact, asserted by the former, that the plants called sensitive, may be deprived of their sensibility by opium and alcohol, whilst vinegar and the oxyds of arsenic

or

or mercury, communicate irritability to plants, which did not possess it before.

Were this fact well ascertained, it would throw great light upon the operation of these medicines in the human frame, and contribute to establish the system, now received by many, respecting *irritability*, as induced by *oxygen*.

The *irritability of the animal fibre* is observed particularly in the heart and arteries; in the lungs, in the stomach and intestines, in the absorbents, and in the secretory glands.

These perform the functions most essential to vitality, which being therefore incessantly needful, whether we sleep or wake, are produced, not by sensation and volition, but, for the best reasons, by *irritation* only.

Some fibres, as for instance those of the sphincter muscles, are usually under the dominion of the will; yet when strongly irritated, these likewise assert their independence.

It has been remarked by Dr. Brown, and his disciples, that the irritability of the fibre may be in a state of *tone*, in a state of *accumulation*, or in a state of *exhaustion*, and all our observations seem to confirm this part of their system.

The absence of stimulating powers, produces accumulation of irritability; whilst the frequent and too powerful operation of stimuli tends to exhaust it.

Boerhaave, in his lectures, makes mention of a prisoner, who being confined in a subterranean dungeon, which was wholly destitute of light, had the sensibility of his retina increased to such a degree, that he not only discerned the walls of his prison, but was in time able to amuse himself by reading; and many, being suddenly exposed to a strong light, have been deprived of sight.

Tone is the proper medium between accumulation and exhaustion.

When a muscle is stimulated, it does not commonly remain in a contracted state, although the stimulus continue; but, unless in case of spasm, is alternately contracted and released; or, as Dr. Cullen was accustomed

to

to express himself, is alternately in a state of *excitement* and of *collapse ;* because the vital energy, even when strongest in the animated fibre, is speedily exhausted by exertion, and requires a given time for the arrival of a fresh supply.

Hence tremor is most observable in cases of debility.

Violent exertion is found to quicken the respiration and the pulse.

These circumstances, when combined with others, tend in some measure to confirm the opinion of Dr. GIRTANNER, that *oxygen* is *the principle* of *irritability*, as *irritability* is *the principle* of *life*.

Certain it is, as Dr. Fowler, after having carefully and repeatedly examined the effects produced by tying the crural artery, and dividing the sciatic nerve, has judiciously observed, that the sanguiferous system contributes more immediately than the brain to the support of that condition of muscles and of nerves, on which depend all the phænomena of contraction in the animated fibre.

Did the supply of vital energy, after violent exertion, depend merely on the nerves, it would not require time for its arrival, because the nervous influence moves as quick as thought.

There was long since a dispute between Dr. Whytt and Baron Haller, respecting irritability, and that dispute is not yet completely settled.

The former attributed this power wholly to the nerves ; the latter to the muscular fibre, independent of the nerves.

This discordance of opinion must, I fear, remain till some one is able with the point of the finest needle, to touch a muscular fibre, without wounding at the same time a nerve.

But were we permitted in this case to reason by analogy, we might suspect, if not conclude, that since *plants* by irritability alone, without brain or nerves, exercise the vital functions ; these likewise may in animals depend on the irritability of the muscular fibre, whilst sensation, thought,

thought, and voluntary motion undoubtedly result from the presence of a brain.

What has been remarked respecting the action of a single muscle, is applicable to separate parts of the system and to the whole.

Thus during the operation of an emetic, the stomach is alternately in a state of excitement and repose. And thus the most violent pains and labour of a parturient woman, if not effectual for the expulsion of the offspring, cease for a time and are then renewed.

Thus likewise all the appetites are liable to fits, returning however after cessation at stated periods; if it be hunger, at the distance of some hours; if it be an appetite, not designed for self preservation, it may return either at the returning season of the year, or at a less distant period, according to the nature of the animal, and the irritability either naturally accumulated and excited, or morbidly induced.

The necessity of sleep arises from exhaustion, and is designed in the absence of all superfluous stimuli to renew the vital energy for the various purposes of life.

It is remarkable, that during sleep, not only the breathing and the pulse are slow and full, but the feeling is rendered dull: murmurs make no impression on the ear; gentle cathartics remain all night inactive in the bowels, and coughing is allayed.

From what has been said it will appear, that the irritability of the system is never in a permanent condition, but incessantly ebbing and flowing like the tide; constantly in motion, like the pendulum in its vibrations, or rather bearing resemblance to the Leyden phial, when it is alternately charging, discharging, and discharged.

Exhaustion prepares the system for fresh accumulation, and this again, giving force to the most feeble stimuli, leads back to the exhausted state, as in the cold and hot stages of intermittent fevers, or as in melancholia alternating with mania.

I have ventured to suggest a possibility that irritability may reside in the simple fibre, as in the vegetable tribes, but

but I am perfectly satisfied, that without nervous communication there can be no consent of parts.

This subject is exceedingly abstruse, and the ideas of the best physiologists are not so clear and distinct, so complete and comprehensive, as we could wish: but as Dr. Beddoes has judiciously observed, "*we should set a proper value on our present knowledge, although it be imperfect, and restrain those rude hands, that are ever ready to pluck up the tender plants of science, because they do not bear ripe fruit at a season, when they can be only putting forth their blossoms.*"

SECTION II.

Of Stimuli.

1. Whatever has a tendency to preserve or to destroy the animal economy is stimulant.

Thus hunger, thirst, and nutriment, equally stimulate the system. And to this head must be referred, pleasurable or painful sensations, desire and aversion; hope and fear.

2. Whatever has a tendency, either simply to destroy the structure of the irritable fibre, to dissipate that which is essential to its action, or to form a separate combination with any of its elements, is stimulant.

Thus attrition, pressure, puncture, distention, cold, heat, the concentrated acids, caustic alkali, and electricity, stimulate the system in general, and more especially the part to which they are immediately applied.

3. Even deficiency and redundance, as John Hunter observes, are stimulant, and excite the absorbent system to new action.

4. Substances which are stimulant to one organ may be indifferent to another.

Light stimulates the eye, but not the ear. Sound stimulates the ear, but not the eye. A single drop of water irritates the trachea and excites convulsive motions, but, unless in hydrophobia, passes quietly by the œsophagus.

From what has been delivered in this work we may understand,

understand, why alcohol, musk, volatile alkali, æther, and opium (the diffusible stimuli of Dr. BROWN) act as such, yet very differently, according to the quantity in which they are exhibited.

But to comprehend their first operation we must observe, that the gastric juice, although it cannot dissolve, yet certainly it stimulates the living fibre, rapidly induces debility, and excites both vomiting and purging. When, by vomiting, it is rejected from the stomach, these symptoms cease.

This fluid operates on all the diffusible stimuli above mentioned, but not with the same rapidity, for those which have most hydrogen, such as æther, alcohol, and volatile alkali, as being most expeditious in restoring the vital energy, seem to be first acted on.

A LADY of an irritable fibre, some short time after vomiting, swallowed about half an ounce of lemonade, and was instantly seized with excrutiating pain and spasmodic contractions of the stomach; but these symptoms were as instantly removed by less than half an ounce of brandy.

When small quantities of opium, alcohol, or of other substances containing hydrogen, are received into the stomach, their first operation is, to neutralize the gastric juice, and thereby to remove the irritation which it caused, in the same manner as an alkali would have neutralized an acid, or an acid would have removed the stimulus of a caustic alkali.

Besides combining with the gastric juice, the carbone and hydrogen of the substances in question attract oxygen, which they neutralize, and form with it carbonic acid and water.

But, when superabundant and not neutralized, they stimulate the stomach and bowels to reject, to dilate, or to expel them, as injurious to the system, which requires a due proportion of its elements.

Agreeable to this observation we may remark of stimuli in general, that, when gentle and regular, they excite the containing vessels to their accustomed action for the purpose of nutrition. But, if they are violent, they either excite spasmodic action of the vessel, to exclude or to stop the progress of the offending matter; or they induce

duce inverted motion, to expel the enemy, and that by the shortest passage, as in the act of vomiting.

SECTION III.

Of the Predisponent Cause of Spasm.

PHYSICIANS have an axiom, which Dr. CULLEN frequently repeated to his pupils:

"DEBILITAS GIGNIT SPASMUM."

This axiom, although not accurately true, is inestimable in the hands of the rational practitioner.

Debility is indeed the predisposing, but not the proximate, cause of *spasm;* and it is allowed, that the predisposition is not sufficient, without an occasional cause, to produce disease.

Nay, debility is only the predisposing cause of spasm as increasing *irritability*, and disposition to act without power to act with.

The connexion between the cause and its effect will be evident, if we either compare the debility and irritability of infancy with the vigour and diminished irritability of the adult; or contrast the lax fibre and irritable disposition of the female with the tense fibre, robust habit, and more tardy disposition to excitement in the male.

In our infancy how readily do we pass to opposite extremes of hope and fear, how easily are we pleased, how soon displeased, and what a thin partition separates between laughter shaking both his sides, and grief overwhelmed with tears.

This irritability is not discovered merely in the mind; it affects the whole system, as must be evident to every one, who has had an opportunity of making observations upon children, or has even felt their pulse.

These observations have no claim to novelty; but I do not recollect, that on this subject it has been noticed, in pointing out the connexion between debility and irritability, that no sooner is a *Synocha* converted into *Typhus*, a disease of extreme debility, than *irritability* succeeds; the most patient become impatient of the least contradiction

contradiction or delay; and, from the slightest causes, are with equal readiness excited, either to laugh or cry.

In this situation, when the *asthenic* diathesis has succeeded to the *sthenic*, the heart and arteries, as we have observed already, when treating of Typhus, have their *irritability* increased, which appears by counting the pulsations, now more numerous, whilst their debility is evident to the touch, and at the same time the alimentary canal becomes more irritable to the operation of cathartics.

But that we may have more clear and distinct ideas upon this subject, let us take a view of the *sanguine temperament*, contrasted with the melancholic already given; both which are well described by Dr. Cullen in his Materia Medica.

The *sanguine temperament* has, hair soft, weak, and light coloured, verging towards red; skin smooth and white; complexion ruddy; eyes blue; habit soft, plump, inclined to fat, and disposed to sweat on exercise; strength moderate; the mind sensible, cheerful, unsteady; simple solids lax; red globules great in proportion to the serum; heart active and strong; blood in the arteries copious with respect to that of the veins; fluids abundant; nervous system sensible, irritable, changeable; the fibre disposed to spasm and to involuntary action, by consent and sympathy with distant fibres.

Persons of this constitution are more particularly liable to hæmorrhage, to inflammation, and to *hysteria*.

In this temperament, we should be at first disposed to think, that the vessels being distended mechanically by blood, this should stimulate the fibres to contract with vital energy, that the action and reaction would be great, the contraction strong, and that, so far from being liable to spasm, which is a symptom of debility, all would be activity and vigour.

This, however, is not so in fact, for it is universally observed of this constitution, opposed to the *leucophlegmatic*, where torpor is a prevailing symptom, that in proportion to the laxity of the simple solids, debility, irritability, and disposition to spasm, prevail.

In this constitution the relaxed fibre readily receives and quickly parts with vital energy, precisely as azote and hydrogen loosely, yet readily, combine with oxygen. Whereas the rigid fibre, more tenacious of its power, in this circumstance bears some resemblance to the base of muriatic acid, which adheres so strongly to its oxygen, unless in its supersaturated state, that no process has been yet discovered to make the separation.

The robust and elastic fibre comes between them both, and, like carbone, seems to be covetous of oxygen, and to combine with it firmly, but not with obstinate tenacity.

The particular temperament will through life, in a degree, retain its influence. Yet, by advancing years, the sanguine tends incessantly towards the melancholic.

By poverty of living, by loss of blood, by exhausting diseases, by frequent use of the warm bath, and more especially by indolence and protracted sleep, this progress towards rigidity of fibre will not only be retarded, but the simple solids and the whole system will become morbidly relaxed.

A generous diet, with the assistance of bark, chalybeates, cold bathing, and cool air, will gradually restore the tone; but it is *exercise* which must distribute, impact, condense, accumulate, this energy in every part; for it is this alone which can effectually brace up the animated fibre and make it tenacious of vitality.

Every muscle by neglect of exercise grows flaccid, tender, and liable to be soon fatigued; but by constant exertion it is increased in size, its fibres are rendered every day more elastic and robust, and, in process of time, the weak may become patient of labour without the least fatigue.

It is not from the sleek and ruddy countenance, not from the plump habit, as indicating distended vessels, that we are to form our judgment of the strength, for Hippocrates has well observed,

"Otium humectat, & corpus reddit debile; labor siccat & corpus robustum efficit."

To see, therefore, vigour in perfection, we must look at the hardy and laborious rustic, whose turgid muscles,

as

as in the statue of the Farnesian Hercules, can be readily distinguished through the skin.

In fatting poultry, we feed them to the full, but we endeavour to keep them perfectly at rest. In consequence of this treatment the vessels are distended, but the fibres are relaxed, tender, and weak in their cohesion. To fatten our ducks, we not only confine them in a place of small dimensions, but keep them from the water, because we observe that their cold bath and exercise render the skin and all their fibres tough.

It may be received as an axiom, that *the living power or energy of an organ is in proportion to the quantity of arterial blood that circulates through it.* For it is not merely the quantity of fluids feebly creeping through the vessels, nor fat stagnant in every part of the system, but the quick succession and strong impulse of *well oxygenated blood* that produces tension, tone, and vigour.

This may be still more clearly comprehended, if we attend to the manner in which horses are fed and worked upon the road. When first taken up from grass they abound with fat, but are not fit for labour, because, on moderate exertion, they are bathed in sweat, and soon exhausted by fatigue. If, when taken into work, they are stinted to five bushels of oats per month, which was formerly their allowance on the road; little work can be obtained from them. But, with sixteen bushels of oats, besides beans, per month, and a small quantity of hay, if worked in proportion to their food, they know not what it is to feel fatigue. Their vessels, distended with *well oxygenated food*, contract with vital energy, the action and reaction are great, all is activity, all is vigour.

Such are the post horses.

But where strength, rather than activity, is wanted, as for the carriers' waggon horses, the proportion of beans is much increased, and that of hay is fourfold; for it is here that the maxim will hold good, *pondus addit robur*. Their motion is slow, but it is long continued.

From all that has been delivered the student will be, I trust, prepared to distinguish between *debility* as connected with *irritability*, and the *debility* of *torpor*.

All

All stimuli, either violent or long continued, tend, as we have seen, to exhaust the vital energy, and to induce morbid irritability, as in Typhus and Hysteria.

Hence it is that violent inflammation terminates in gangrene; and long life in *decrepitude*. which may be rendered premature by the reiterated abuse of stimuli.

We may observe two species of *torpor*; torpor with relaxation, and torpor with rigidity; the one relieved by tonics and mineral astringents, the other not admitting of relief.

In the leucophlegmatic, in *chlorosis*, and in *dropsy*, we have the debility of torpor; not attended by rigidity but by *relaxation*. The vessels of the lymphatic, not of the arterial, system are distended, and that not from vital energy but its defect, and the consequent relaxation of the tensile fibre.

In *hypochondriasis*, although not to the same degree, we observe the debility of torpor, not induced by the excess of stimuli, nor attended either by rigidity of fibre or by any remarkable relaxation of the lymphatics; but arising from the cause already mentioned, when I was treating of that disease.

In all these affections we distinguish a languid circulation and deficiency of heat.

It were needless to remind the student, that the debility, which is the predisponent cause of spasm, is not the debility of torpor, but debility as connected with irritability.

This then is the predisponent cause; but this alone will not produce disease.

It is acknowledged, that the retina is almost infinitely irritable; yet this irritability will never produce contraction of the iris without the stimulus of light, nor will the highest degree of irritability produce spasm without some irritating cause.

The first time I visited the New Forest in Hampshire, I thought my horse was frantic; he foamed, he fretted, he lashed himself with his tail, every muscle was convulsed, and he was bathed in sweat. The servant of my friend, who was present, watched his opportunity to remove

move *one little fly*, and all was calm ; tranquillity was instantly restored.

Thus precisely is it in the human frame. In spasmodic affection arising from extreme debility, with its corresponding irritability as the predisponent cause, you remove the little fly and the spasm ceases.

Should the student meet with spasm in the sthenic diathesis, as I have stated in the case of the Bilious Autumnal Fever, he may be certain that it is not a little fly to be removed, but a wasp, a hornet, because in this constitution the irritating cause must be much stronger to produce even a slight spasmodic affection, than would be sufficient for the most violent, where irritability in the extreme prevails.

In the case, to which I have referred, we saw gastrodynia flatulenta, which was removed when the first passages were cleansed ; and violent spasmodic stricture, in either the cæcum or in a flexure of the colon, which ceased as soon as those viscera were cleansed of accumulated scybala by repeated clysters.

Spasmodic affections are occasioned by,

1. *Local irritation.*
2. *Consent of parts.*

The first is wholly independent of the brain and spinal marrow ; but the latter ceases when the communication with the origin of the nerves is interrupted.

1. As an instance of spasm induced by *local irritation*, without consent of parts, we may mention colic, in which scybala stimulate a portion of the colon precisely, and with the same effect, as when calculi in the ureters, or sharp sand in the eye, stimulate the part with which they are in contact.

2. The consent of parts may be considered as either universal or particular.

When cold is suddenly applied to the surface of the body, all the irritable fibres appear to have one general consent. The alarm is universal ; we feel a contraction of the skin, and the rapidly increased secretion of limpid urine proves, that the irritation and constriction reach to the kidneys ; every part of the alimentary canal is instantly

stantly affected; the arterial system feels the momentary influence; the exhalants on the surface are drawn into consent; the absorbents are excited; and the greater the extent of surface exposed to the action of cold air or water, the more evident are these effects.

On this principle it is that partial application of cold stops the epistaxis or bleeding at the nose.

Mental stimuli are equally universal in their effect. In a state of health every passion of the mind is connected with some correspondent motions in the body, and exerts its influence, not merely on the heart, but on the whole arterial system, even on the most minute ramifications and the smallest vessels, to which the direct force of the heart does not extend. Hence shame is manifested by redness of the face; fear by paleness; anger alternately by both.

But the influence of the mind, when suffering by passion, is extended equally to the brain and to the nerves; hence it is that anger and fear produce universal tremor; and hence it is that various affections, passions, and apprehensions of the mind, produce disease and spasm; as we shall clearly see when we come to treat of the various genera included in this order.

From this universal consent it is, that opium applied to the extremities of the nerves, not only destroys irritability in the muscles to which it is immediately applied, but exerts its influence by sympathy on the origin of the nerves, destroying the vital energy of the brain, and rendering every animated fibre irritable even by the strongest stimuli.

Besides this general consent, we observe a special consent and sympathy between distant parts which are subservient to each other.

1. Between the lungs and all the muscles which assist in respiration.

2. Between these and the right ventricle of the heart, when it is stimulated by the returning blood.

3. Between the rectum and the uterus, and all the muscles which assist in the involuntary expulsion of either the fæces or the fœtus.

4. Between

4. Between the stomach and all the muscles which assist in the convulsive act of vomiting.

5. Between the nostrils and the lungs, as well as all the muscles which assist in respiration. For when stimuli irritate the nostrils, the lungs are instantly inflated to their full extent, and a strong involuntary blast is directed through the contracted passages to drive off the offending matter.

6. Between the stomach and the gall bladder, when charged with gall stones, which excites strong vomiting, to shake the cyst and to discharge the stones.

7. Between the stomach and the heart. See Zoonomia, II. 728. 489.

8. Between the *stomach* and the *lungs*, as I have already had frequent occasions to observe, particularly in speaking of digestion and of tussis stomachalis. The same will be noticed when I proceed to treat of asthma and of hooping cough.

9. Between the stomach and the brain.

10. Between the pregnant womb and the breasts, to prepare nutriment for the new born infant.

Some kinds of consent arise from vicinity, as when tenesmus and strangury excite each other.

Some are founded only in continuity, as when tenesmus produces vomiting.

Hence it is that tenesmus, in irritable habits, may be instantly relieved by spices, wine, and brandy, or even by food received into the stomach.

The consent of parts, which are subservient to each other, being founded in utility, may be termed salutary and well directed in opposition to other kinds of consent, which, being either useless or deleterious, might with propriety be denominated frantic or capricious.

In these we can discover no appearance of design, and can scarcely therefore consider them as the efforts of nature to relieve herself. The common sensorium seems to be so disordered, that none but the wildest efforts are produced, in which commonly the weakest and most irritable part of the system is the first to suffer.

These wild efforts very commonly arise from affec-

tions

tions of the stomach, as in cases of worms, or as in that beautiful case reported by Hildanus, and quoted by Hoffman. A young woman having swallowed a large needle, she soon felt such intolerable pain in her stomach as deprived her of rest. On the sixth day after this accident she had a fever, became phrenitic, and neither eat nor drank. She was seized with horrid convulsions of the neck, of the arms, of the lower extremities, and so violent, that three strong men could scarcely hold her. After such exertions she lay for a time exhausted, then suddenly was seized with fresh convulsions. She was however preserved by oleaginous medicines, and by broth, and having passed the needle, was restored to perfect health. Hoffmanni Op. Tom. I. p. 312, Hildanus, Cent. I. Obs. 34.

SECTION IV.

Of the Occasional Cause of Spasm.

When we are seeking for the irritating cause, nature sometimes points by her efforts to the source of all her sufferings, and then we can scarcely fail to understand her meaning.

In all diseases, but more particularly in the spasmodic, our attention should be turned towards what are called the six *non-naturals*.

1. Air. 2. Food. 3. Motion. 4. Sleep. 5. Passions. 6. Things retained or discharged, for among these we shall find the occasional cause of the disease.

1. *Air.* I know not that any condition of the *air*, as such, will immediately produce a spasm; but certain it is, that *impure air*, such as we breathe in crowded assemblies, increases debility, and then, as Dr. Brown, and before him Dr. Whytt, judiciously remarked, when the body is debilitated, the ordinary stimuli, that in its healthy state invigorate it, produce irregular motions. Among these we may reckon the *heat* of the surrounding atmosphere, which, if suddenly increased, more especially supposing irritability to have been previously accumulated by

by its absence, that is by cold, proves a most powerful stimulus.

In warm climates, obstinate spasmodic affections are frequent; but these arise from debility, as the predisposing cause, induced by heat; and the occasional cause must commonly be sought for in some other stimulating power.

2. *Food*, if superabundant, morbidly affects the nerves of the stomach, which is itself the most irritable organ, and with which every other part of the system sympathizes. But, independent of the quantity, the quality of the food may prove a stimulant inducing spasm.

3. Of *motion* and *rest* I have already spoken; of rest as leading to debility, and of exercise as increasing strength.

But here it is proper to observe, that violent muscular exertion is a powerful stimulus, such as debilitated subjects cannot bear without inducing spasmodic affections.

4. *Wakefulness* tends to exhaust the vital energy, and to induce debility; but in sleep, when no animal motion diminishes the rapidly increasing energy, accumulation must be the consequence. Yet even during sleep spasmodic affections are apt to intervene. The reasons seems to be, that, although sensibility is blunted during sleep, irritability in some functions appears to be increased, as in the action of the absorbents, and the convulsive spasms arising from the stimulus of worms.

5. The *passions* have an amazing influence, as I have already stated, in the production of spasmodic affections.

Were I to attempt a new and universal arrangement of the diseases incident to man, I should feel myself inclined to unite in one system the *mental* and *corporeal*, between which there is a manifest connection.

As a clergyman I meet with moral diseases, which require the aid of a physician; and, in the practice of medicine, I have frequently observed diseases of body induced by morbid affections of the mind, in which therefore moral arguments combined with medicine are the most effectual remedies.

6. Things retained afford abundant cause for spasm.

a. *In the alimentary canal.*

These may be, indigested sordes, viscid mucus, worms, the gastric juice, bile, or, as in the case quoted from Hildanus, some extraneous body.

Porfessor Macbride, of Dublin, judiciously observes, that the most common source of disturbance in the nervous system is acrid and offensive matter, either in the stomach or flexure of the duodenum, of which the symptoms are, in the tongue foulness, sordes, and thick sloughs; in the mouth a taste, bitter, sour, rancid, putrid; nausea and loss of appetite; pain in the left orifice and upper part of the stomach; weight and oppression about the præcondia; fulness of the hypochondria; heaviness, giddiness, and pain in the head; shivering and coldness of the extremities; with lassitude and loss of strength.

Professor Hoffman speaks of acrid, bilious matter in the intestines as the cause of spasm.

Materia acris biliosa flatuum & spasmorum genitrix. Tom. II. p. 199.

And Dr. Whytt, in his inestimable work on Nervous disorders, has dilivered his opinion, that *tough phlegm* and *worms* may be considered as their efficient causes. See Hoffman, I. 235.

b. *In the vascular system.*

Retention of any accustomed evacuations throws the whole system into confusion, and produces a great variety of spasmodic affections, more especially at the time when nature is making an effort to relieve herself. Hence it is, that we so often find those affections attendant on obstructed catamenia, and the intermission of any hæmorrhage which is become habitual.

c. *In the exhalants.*

Eruptions of any kind, which are either tardy in their appearance, or which have been repelled, produce the same confusion in the system. Hence it is that children and persons of an irritable habit are apt to have convulsions or epileptic fits at the commencement of eruptive fevers, and more especially prior to the appearance of small pox and measles.

Perspiration checked has frequently the same effect.

d. *In*

d. *In the gums.*

When children are teething, they are liable to convulsions, unless the gum is cut as soon as it begins to swell, to assist in the protrusion of the tooth.

Dr. Whytt has left us many curious cases in spasmodic affections cured merely by some small natural evacuation of blood from a part whence it had never flowed before, or by a similar discharge of pus; by the appearance of either the catamenia or the hæmorrhoidal flux; by cutaneous eruption, and by the inflammation of the gout; and every one knows, that in children, as soon as the tooth comes forth convulsions cease.

Things discharged have not a tendency to produce spasm any otherwise than by inducing debility, in case the discharge, whether of blood or lymph, has been immoderate.

SECTION V.

Of the Indications of Cure in Spasmodic Affections.

In spasmodic affections the general indications may be, to relieve the spasm, if necessity requires it, by antispasmodics, such as, peppermint water, æther, opium, camphor, electricity; but these must be considered as merely palliative.

The *second* is, to remove occasional causes, which, according to circumstances, may be by emetics, cathartics, emmenagogues, anthelmintics.

The *third* is, to obviate the predisposing cause, by tonics and astringents either vegetable or mineral, by a generous diet, by cold bathing and cool air, and more especially by temperance and exercise.

Under this order we have sixteen genera:

Raphania, *Epilepsia*, *Convulsio*, *Chorea*, *Tetanus*, *Palpitatio*, *Dyspnœa*, *Asthma*, *Pertussis*, *Dysenteria*, *Colica*, *Cholera*, *Diarrhœa*, *Diabetes*, *Hysteria*, *Hydrophobia*.

The five first affect the *animal functions*, the external senses, with the judgment, memory, and will.

The

The four following affect the *vital functions*, the respiration and the motion of the heart.

The seven last affect the *natural functions*, the digestion, with the appetite, secretions, and excretions.

Genus XLI. Raphania.

The pathognomonic symptoms are, spasmodic contractions of the joints, with convulsive motions and most violent pain, reverting periodically and continuing from ten days to three months.

SECTION I.

Of the Useful Symptoms of Raphania.

It begins with cold chills and lassitude, pain in the head, and anxiety about the præcordia.

These symptoms are followed by, spasmodic twitchings in the tendons of the fingers and of the feet, discernible to the eye, heat, *fever*, stupor, delirium, sense of suffocation, aphony, and horrid convulsions of the limbs. After these, vomiting and diarrhœa come on, with a discharge of *worms*.

About the eleventh or the twentieth day copious sweats succeed, or purple exanthemata, or tabes, or rigidity of all the joints.

SECTION II.

Of the Treatment in Raphania.

For the proper treatment of this disease I must refer the student to what I have said on fever and on spasm, with the most perfect confidence, that the history here taken from Sauvage will receive light from what I have delivered on these two orders of disease, and that my indications in them will equally apply to this.

With this persuasion I have placed it as the connecting link between Pyrexia and Neuroses.

It

It must be evident that raphania originates in the *alimentary canal*, and I have not the least doubt that as, according to Sauvage, it is induced by the coarsest, the most clogging, and the most improper, food, so it might be speedily removed by emetics, followed by a generous diet, with tonics and astringents.

Genus XLII. Epilepsia.

Epilepsy.

The pathognomonic symptoms are, convulsions with sleep.

SECTION I.

Of the Attendant Symptoms.

The usual attendant symptoms are, foam issuing from the mouth; respiration laborious, as in the act of strangling; pulse at the commencement quick and small, but in the progress of the paroxysm languid and full.

The eyes are swollen and protuberant, constantly in motion, and turned up, so as to conceal the pupils; teeth grinding with such violence, as sometimes to split them; the jugular veins turgid; the tongue swollen and protruded.

The head is convulsed, and sometimes seized with *tetanus*, and either drawn forwards to the chest, or backwards to the spine, where it continues fixed and immoveable.

The thumbs are strongly rivetted within the palms.

All the muscles are, either convulsed to such a degree that four or five men can scarcely restrain their motion, or the whole body becomes rigid with *tetanus* like a marble statue.

The wind is heard rumbling through the bowels, and sometimes escapes by eructation.

A vomiting comes on; the fæces are ejected with violence;

violence ; and blood is sometimes evacuated both up and down, yet without rupture of the vessels.

The urine is at the same time forcibly emitted with the contents of the adjoining vesicles.

It sometimes comes on suddenly and without the least warning of its approach. But it is frequently preceded by some degree of lassitude ; headach and heaviness ; obtenebration ; singing in the ears ; disturbed sleep ; unusual timidity ; palpitation of heart ; respiration intercepted ; coldness of the extremities ; rumbling in the bowels, with offensive flatus ; urine copious and limpid, agreeable to the axiom of Hippocrates :

" *Epilepticis, urinæ tenues & crudæ præter morem, sine repletione, morbi invasionem significat.*"

In some patients the *epileptic aura* is perceived in the extremities, creeping, unless stopped by a tight ligature, towards the head, and, arriving there, it instantly produces the epileptic fit.

SECTION II.

Of the Intervals and Effects Produced by Epileptic Fits.

The intervals between the fits are various, either annual, monthly, or diurnal.

The paroxysms sometimes return more than once in the space of four and twenty hours, commonly at the new and full of the moon, frequently at the quarters, but nearly about the same hour of the day. It is not, however, unusual for them to come on during the time of sleep.

Epileptic fits weaken the understanding, memory, and judgment ; and, unless restrained, induce fatuity.

They often leave behind them mania, palsy, deafness, loss of sight, and at last terminate in the apoplectic stroke.

SECTION III.

Of the Predisponent Cause of Epilepsy.

The persons most subject to epilepsy are, infants and children

children before the age of puberty, more especially females, and such as are of a relaxed and therefore of a plethoric and irritable habit, but especially if descended from epileptic parents, or if the mother happened to be terrified during the time of pregnancy.

The indolent, and such as have been reduced by poverty, exhausted by hæmorrhage, or worn out by any species of drain or of intemperance, and such as in any way offer violence to nature, are among the first who suffer by this formidable disease.

The predisposing cause of epilepsy is, therefore, debility with sensibility and irritability, which Dr. Cullen well expresses by one word, *mobility*.

Yet I cannot agree with him and Dr. Home, that this wholly depends on a plethoric state of the system and general turgescence of the blood.

SECTION IV.

Of the Occasional Causes of Epilepsy.

The occasional causes are,

1. *Violent excitements of the brain.*

a. By the sensations of pain or pleasure.

b. By the passions of joy, anger, surprise, and terror.

Even a violent and sudden noise, or blaze of light, is sufficient to produce a fit; and what is very remarkable, children hanging at the breast, when their nurses are enraged or terrified, are liable to be attacked by this disease.

c. By muscular exertions.

2. *Irritation* from

a. Worms. These have sometimes made their way through the intestines into the cavity of the abdomen.

Van Swieten particularly mentions a child, two years old, who appeared to be healthy till he was seized with violent convulsions of which he died.

When opened, they discovered the duodenum pierced by a *lumbricus teres*, which was taken out alive. v. Hoffman, I. 235.

b. Indigested sordes, Viscid Mucus, Bile.

A PATIENT came to me, a lad of about 17 years of age, who had had two and twenty fits within the last fourteen days. He remarked, that about a quarter of an hour before they came on, he had uneasy sensations in his stomach and began to yawn.

He had no appetite. He had been lately eating a great quantity of sloes, and had swallowed all the stones.

One dose of jalap stopped the fits, and he had no return.

Dr. Ferriar relates the case of a patient, who at the first attack of a rheumatic fever, was attacked with epileptic fits, to which he had never been accustomed. Suspecting that they were occasioned by the stimulus of accumulated bile, I gave him a vomit, says the Doctor, which brought up a great quantity of green bile, and relieved him intirely from the convulsions. In the course of the fever the convulsions returned, and were again removed by some doses of calomel, which always produced green stools. Ferriar Med. Hist. p. 8.

The meconium remaining, and acidities collected in the stomach and intestines, are the common source of epilepsy in new born infants.

c. Hunger, arising either from acidities or from the stimulus of the gastric juice.

Galen makes mention of a student, who, when fasting long, never failed to have an epileptic fit.

d. Opium and spirituous liquors, taken in such quantities as rapidly to expend the vital energy and produce intoxication.

e. Renal calculi, exostosis and extraneous bodies. La Motte, in his Treatise of Surgery, makes mention of two epileptic patients, in whom no occasional cause for this disease could be assigned, till one of them, after a violent paroxysm, having passed five calculi, had no return of the disorder; and in the other, after death, there was discovered a stone, weighing five drams, lodged in the pelvis of the right kidney.

Dr Whytt observes, that epileptic fits have proceeded from a rough bone or cartilaginous substance irritating the nerves of the great toe or the calf of the leg.

A Girl, aged twelve, having dropped a glass ball into her ear, was seized with acute pains, which were communicated

municated to the head, and produced numbness in the left arm, and of the whole side, accompanied by great pain, which increased in the night, and in wet weather. Her courses became irregular, and she was seized with epilepsy, and emaciation of the left arm. Fabricius Hildanus, after eight years, when every other medicine had failed, extracted the glass ball, and all the symptoms vanished.

f. Tittling. Van Swieten saw a young lady, who had no claim to epilepsy, yet for many years suffered by this disease, induced at first by tittling, whilst some of her companions pinned her down, and others amused themselves for a great length of time in tittling the soles of her feet.

g. Hæmorrhagic effort, whether directed towards the uterus, hæmorrhoidal vessels, the nose, or any other part, from which blood has been accustomed to proceed.

h. Exanthematic effort, more particularly in small pox and measles.

i. Herpetic eruptions checked by repellents, as when the tinea or scald head in children, a running behind their ears, the gutta rosea in hard drinkers, or any ulcer, is dried up by astringents; or when the itch has been repelled by improper external applications.

A Lady with a red pimpled face applied to it, as Dr. Darwin thinks, a solution of lead, and was seized with epileptic fits, which terminated in palsy, and destroyed her. Zoonomia, II. p. 260.

k. Arthritic effort; for it has been frequently observed, that the disposition to epilepsy has been instantly removed by the first attack of inflammatory gout, and has never more returned. See Van Swieten, Sect. 1075.

l. Cold suddenly applied. According to the Brunonian doctrine, this cannot be considered as a cause of epilepsy, any otherwise than as *accumulating irritability*, and the *subsequent heat* ought to have been assigned as the cause.

m. Heat, when excessive or succeeding to cold. Epilepsy has been called with great propriety *morbus comitialis*, for it has been constantly observed, that they who

are disposed to this disease, are most liable to be attacked by it in crowded assemblies and in heated rooms.

n. Thunder; for Van Swieten has well remarked: "*Plures epileptici instanti tonitru corripiuntur paroxysmo.*"

o. Odours, such as, from peculiarity of constitution, disagree.

p. Imitation. I remember hearing Dr. Whytt relate, that a whole ward of young women became affected with epileptic fits, merely by the sight of one epileptic patient; and I have more than once had occasion to observe, that epilepsy, like yawning and many other nervous tricks, is to be acquired by imitation.

q. Lively recollection, producing the same effect as the original impression.

Thus the young lady mentioned by Van Swieten fell into an epileptic fit, even when she saw her companions preparing to tittle others.

He tells likewise of a boy, who was so terrified by the unexpected attack of a great dog, that he fell down epileptic, both at the instant and whenever he either saw a great dog or even heard one bark.

We know what it is to shed tears at the recollection of some tender or distressing scene long since past, and the same degree of recollection will, in irritable habits, renew spasmodic motions which had ceased; as for instance, in the act of vomiting: and Van Swieten mentions a young man, who was seized with nausea and purging merely at the sight of the cup, in which he had repeatedly taken a cathartic.

r. Dropsy, as mentioned by De Castro and Lieutaud.

s. Habit.

SECTION V.

Of Habits.

I HAVE formerly remarked, when treating of intermittents, that nature is fond of habits.

The propensity to acquire habits and to act from them,

them, when the original incentive has long since ceased, is peculiarly the property of animals.

This general law of the animal economy, although sometimes the source of evil, is productive of much good.

The generous steed, once set in motion, no longer needs the whip and spur, nor yet the curb, unless it be to make a change, and either to quicken or retard his motions. And the rider himself, if he has been accustomed to travel on one road, may wholly occupy his mind about a thousand speculations, or, with intensity of thought, pursue one continual series of ideas; and yet, although he may often change his direction, never wander from his way.

Innumerable actions, needful to the well being of the animal, are performed by *habit* without the least attention at the time.

Habits have respect to place.

All animals have their haunts and home bush.

The first object of pursuit is food, and with regard to this they have all their haunts.

The sportsman knows where to look for the covey of partridges to day, which yesterday he moved, whilst they were feeding in the stubble; and we have great reason to believe, that even birds of passage return annually to their accustomed spot.

The next object of pursuit to animals is some safe retreat, in which they may quietly repose, some hiding place in which to sleep.

In the choice of a sequestered spot, it is accident which first determines them; but the choice once made, they habitually return to it, unless fear, or some motive, more powerful than habit, determines them to change it.

When they are to pass from their place of rest in search of food, the choice of a path is not a matter of indifference, but it is influenced by habit. If one of the same species has passed before them, they follow in his steps, and having once passed unmolested in this path they *tenaciously* adhere to it.

Hence it is, that on the open down you may distinctly trace the track of different tribes.

Hares

Hares have their track, with which the poacher is well acquainted, for it is here he fixes up his snare. Sheep and horses have each their particular track; and it is well known that men will tread where men have trod before, insomuch that if a drunken clown makes a crooked path over a new ploughed field, the next who follows will inadvertantly trace his footsteps; and, having once passed by a given track, men habitually resort to it again.

I have frequently remarked the force of habit in large companies, who dine together at a public table, for every man, even without intending it, returns to the same seat he occupied the day before.

And in a farmer's stable, or in his shed, his horses and his cows pertinaciously retain each one its peculiar place; and should it be occupied by some impertinent intruder, this will be a sufficient subject of contention.

Dogs, in a peculiar manner, feel the force of habit respecting the spots they have fixed upon for their evacuations.

In their friendships animals are governed by the force of habit, for any two which meet accidentally, at a time and place distant from that in which they accidentally met before, are attached to each other, and, supposing them not to be restrained by some more powerful influence, will immediately become associates.

If two horses, strangers to each other, travel together to a fair, although they should have formed an acquaintance only for ten minutes, they will find each other out among a thousand others, and will quickly come together.

Habits have respect to time.

Whatever habits we have formed, with regard to the times of feeding, will have a powerful influence on the appetite for food.

The savage, who lives by hunting, may fast many days, and then feed voraciously, without suffering either by inanition or repletion: but they who, in civilized society, have acquired the habit of feeding five times every day, cannot pass one meal, nor without impatience wait five minutes beyond the usual time of eating.

In

In both, the appetite for food and the powers of digestion depend on habit.

In case of great mental excitement, men may continue many days without repose; but, if they have acquired the habit of sleeping at a certain hour and for a certain length of time, sleepiness at that hour will return, and at the accustomed hours they will awake from sleep.

Both the desire for sleep and the disposition to awake may, by habit, become as regular as the rising and the setting of the sun.

The same may be said of evacuations. I had a nurse for my children, who was so perfectly satisfied of this, that she governed all their motions by the clock, and in their earliest infancy taught them the vast influence of habit.

Every part of the system is under the influence of habit, and even the mind itself is not exempt from it. Hence, as Mr. Locke has taught us, arise association of ideas, associated actions, and association between actions and ideas.

Some associated motions are governed by the will, as in playing the violin or flute, and the arts of turning, of spinning, and of weaving. Others are occasionally under the guidance of the will; yet, in case of violent stimuli, they are not to be restrained, as happens sometimes in the expulsion of the fæces and the urine.

Motions are easily associated if they serve the purposes of life; but not if they go counter to natural combinations, as when the silversmith, for the first time, attempts to inspire by his nostrils whilst he is blowing through his lips.

Yet by frequent repetition the habit is obtained, and the consent of parts is effectually established.

One combination is so perfectly unnatural, that no one has yet been able to describe at the same time two circles in opposite directions, one with his foot, the other with his hand.

Some associated motions, although at first either voluntary or accidental, become at last wholly independent of volition.

Thus

Thus it is, that by habit we acquire *tricks*.

Other associated motions are from the beginning independent of the will, such as the vital motions, and those which are established by disease.

Of sympathy and consent of parts I have already treated, and have only here to add, that, agreeable to a remark of Dr. Cullen, Sect. 1311. in proportion as the *habit* is established, a less degree of stimulus is needful to excite the system, and to induce associated efforts; whether to exclude the enemy, to arrest, or to expel him, supposing him to have gained admission, or those wild efforts and consent of parts, which seem to be altogether either frantic or capricious.

Before I quit this subject I must yet observe, that nature learns in a measure to provide for *habitual* drains, and usually feels burthened if these are intermitted.

This observation extends to hæmorrhages, whether artificial, natural, or morbid; to perspiration; to ulcers; and to every other kind of drain, as may be particularly remarked in France, where the natives acquire the habit of incessantly spitting out their saliva; in Spain, where a voluntary discharge of mucus from the fauces is both excessive and disgusting to the last degree; and in Holland, where spitting is induced by smoaking; for none of them seem to suffer by such a constant drain.

This observation extends likewise to the local expenditure of vital energy, or of that, whatever it may be, on which vital energy depends, whether this pabulum be merely oxygen derived from the arterial blood, or the nervous fluid, whatever that may be, or both, as I am inclined to think, united.

SECTION VI.

Of the Proximate Cause of Epilepsy.

Boerhaave, as the proximate cause of epilepsy, assigns vehement action of the brain on the mototory nerves, and total defect of action on the sentient nerves.

With this, the opinion of Hoffman substantially coincides, yet it is more methodically expressed, for he considers

siders the proximate cause to be spasmodic stricture of the dura mater, compressing the sentient nerves, and causing a greater influx of the nervous fluid to the moving fibres.

Epilepsy appears to be nearly connected with apoplexy, more particularly with *apoplexia spasmodica* of Hoffman, and seems to admit of distinction into sanguine and serous.

The paroxysm seems to originate in spasm, but there is evidently, and perhaps induced by spasm, a determination of blood to the vessels of the head, with some degree of pressure on the brain, which may be from distended blood vessels; or, the action of the exhalants being increased, there may be effusion on the brain; and during the state of coma this superabundant lymph may be taken up by the absorbents.

In case of rupture of the blood vessels, apoplexy and death will close the scene.

Now, as the pressure on the brain is only partial, and the animal functions are alone suspended, the vital energy will be accumulated, and therefore act with increased vigour on the other functions, as we have remarked in the enumeration of the symptoms.

This substantially agrees with the pathology of the sagacious Hoffman, and with a curious experiment of Sauvage, when he induced epileptic spasm by wounding the medulla oblongata, and death by puncture of the spinal marrow.

SECTION VII.

Indications of Cure in Epilepsy.

PRACTITIONERS in their treatment of this disease may be separated into three classes.

The *first* prescribe only *to the symptoms.*

Thus they commonly recommend carminatives, that is cordial stimulants, to discharge the flatulence of the stomach and bowels; ether, the fœtid gums, and opium, to relieve the spasmodic affections of the moving fibre; magnesia,

magnesia, to absorb the acid; or salts and manna, to remove the costiveness.

The *second* seem to proceed one step farther, and prescribe *for the disease.*

They look into books, and being told that epilepsy is to be cured by such a medicine, they give it with confidence; but being disappointed in their expectations, they try some other *infallible specific*, governed entirely by chance, without one ray of light to guide their steps.

The *third* prescribe, if I may so express myself, neither to the symptom nor yet to the disease: they endeavour *to find out the proximate cause;* but neither are they contented with that investigation, for they never rest till they have made up their mind as to the *predisponent* and the *occasional cause* of the disease submitted to their care, and *on these* they establish their indications.

Boerhaave concludes his judicious remarks on epilepsy by pointing out the inutility of *specifics:* yet most of his cotemporaries, and too many of his followers, have had no other dependance in the cure of most diseases.

Even Hoffman, in this respect, deserves our censure. He agrees with Wiesmann and Dolæus in recommending a *specific* powder, to be composed of all the subsequent ingredients, earth worms, frogs, moles, swallows, fresh feet and embryos of hares, ivory, stag's horn, human skull, blood of a healthy man, with manatee stones, but above all the hoof of the elk.

The elk was chosen as being himself subject to epileptic fits; and the hoof, because, when seized with epilepsy, he cured himself by putting his hoof up to his ear!

Etmuller informs us, that the horn of the *elk*, by distillation, yields a volatile alkali, which is antiepileptic!

But to render this efficacious for the human race, it was needful, that the hoof should be stuck off by *a hatchet* whilst the animal was young and most at rut.

The manatee, or sea cow of warm climates, was fixed upon, as being friendly to the human race. See Schroder, b. 5. d. 3. n. 77. & Rejes C. El. q. 45. n. 3.

As

As to the blood of a healthy man, this seems to have been the relic of Pagan superstition, for we learn from Celsus, that a common prescription for epileptic fits among the quacks, was to make their patients drink the warm blood of a gladiator slain in combat.

We may remark, however, that with these specifics, the best instructed physicians were accustomed to combine cordial stimulants, antispasmodics, tonics, and the vegetable astringents, not, however, forgetting *oriental pearls*.

Professor HOFFMAN particularly states, that evacuants, temperants, and alteratives, must precede the use of *these specifics*.

His learned friend, Dr. NICOLAI, very properly observes, that the epilepsy of children, arising from acidities in the first passages, is effectually relieved by the *testaceous powder* contained in this farrago; that nothing can be more idle than to seek an universal remedy for spasmodic affections, and that, to cure them effectually, the medicines must be adapted to the cause. After which, however, he with the utmost propriety, exclaims,

"*Sed quam variæ sunt spasmi vel epilepsiæ causæ!*"

In epilepsy the indications must be taken from the *remote causes*, because during the paroxysm nothing can be done to give relief.

The indications then will be,

1. *To increase the vital energy.*
2. *To remove the morbid stimulants.*
3. *To obviate the contracted habit.*

I. To answer the first intention, we must recollect what has been delivered in the section on debility and spasm, and in conformity to those ideas, we must increase the tone by increasing the tension of the solids and the circulation of the fluids.

For this purpose we must adopt a generous diet, with cool air, exercise, and the most powerful astringents, avoiding at the same time all causes of debility.

The cold bath, gradually increased in coldness, and the time of the immersion gradually increased from momentary to five minutes continuance, will be found an efficacious tonic.

Hippocrates observes of epileptics,

"*Si quartana supervenit, liberantur.*"

We cannot include a quartan, but we can supply its place by the sudden application of cold, to be followed immediately by glowing heat, so as to induce a universal excitement of the system.

Dr. Brown has well remarked, that the cause of epilepsy is neither plethora, nor plethora with mobility, but *debility;* and therefore he prohibits venesection. Yet, with submission to his superior talents, I must here suggest, what I hope has been already proved, that debility implies relaxation of the solids, which often induces plethora, and that this kind of plethora prevents the degree of circulation which is needful for the increase of tone.

If, therefore, the student should observe in his epileptic patient a tensive pain in the head, with inflamed eyes, but more especially with oppression on the pulse, let him not be afraid to use the lancet, yet, whilst the blood is flowing, let him put his finger upon some artery, that by its *feebleness*, he may be warned to desist, or by its *increasing vigour* he may be encouraged to proceed. At the same time let him remember, that venesection, as Dr. Brown has demonstrated, increases ultimately the evil it was intended to remove, and therefore let him not repeat this operation, but proceed to brace up the relaxed fibre, as the best preservative from such plethora.

Many eminent physicians, in the cure of epilepsy, have placed their whole dependence on metalic oxyds, and have particularly recommended zinc.

Some give either flores zinci, or the precipitate obtained from vitriolated zinc by alkali, beginning with one grain twice a day, and gradually increasing the quantity to twelve grains three times a day: but others prefer the zincum vitriolatum, increasing the dose from five to twelve grains twice a day.

Dr. Cullen frequently prescribed and strongly recommended *cuprum ammoniacale*, and many of his pupils have produced wonderful effects by giving a quarter of a grain to a dose, advancing gradually even to four grains twice a day.

Had

Had they began by giving the largest doses, the stomach would have revolted, and by the force of habit, subsequent doses, although reduced in quantity, would have produced the same bad effect. But by proceeding gradually, the stomach may habitually be taught to bear the largest doses; the lacteals may be trained to take up these substances in great abundance; and then, being conveyed into the blood, they will circulate through the minutest vessels of the system, to deposit perhaps their *oxygen* wherever it is wanted, but certainly, in whatever way it is accomplished, to increase the vital energy.

In my own practice I have been much attached to steel. This I learned from SYDENHAM, and having seen its wonderful effects, as administered by the late Dr. SMITH, of *Blackfriar's Bridge*, and by Dr. NANKIVELL, in *Cannon Street*, I have constantly adhered to it.

The best preparations are, the filings and the rust of iron, either of which I give from five to ten grains, two or three times a day, at stated hours, and sometimes I have united it with angustura bark.

℞ Cort. Angustur. un. 2.
Limat. ferri, dr. 4.
Pulv. Arom. dr. 1.
Syr. Zinzib. q. s. f. Elect.
c. M. N. bis vel ter in die.

That is,

Take angustura bark two ounces; filings of iron half an ounce; aromatic powder one dram; syrup of ginger sufficient to make an electuary.

The dose may be a bit as big as a nutmeg twice or thrice a day.

I have lately found the bark of the English oak, combined with bitters and aromatics, abundantly useful as a tonic and astringent. But in epilepsy, the minerals deserve the preference.

Dr. Wilson, where tonics and astringents failed, has cured by giving camphor gr. 5. increasing the dose gradually to thirty grains.

II. To answer *the second intention* will require the watchful attention of the patient.

He must learn to moderate his passions and enjoyments, equally avoiding all sudden and violent excitements both of pain and pleasure.

He

He must be temperate as to his eating and drinking, and in proportion to these he must regulate his exercise; yet cautiously abstaining from excessive muscular exertion.

It will likewise be needful for him to shun the extremes and sudden alternations of heat with cold, and to keep at a proper distance from those who are suffering by the same disease.

Hoffman gives a very interesting case of a young girl, aged 12, of a florid complexion, plethoric habit, and inclined to costiveness, who, being *terrified*, was seized with violent epileptic fits, but was cured by bleeding at the nose.

The cases of epilepsy, which in the country have been submitted to my care, have been principally induced by terror, by indigested sordes in the stomach, or by worms.

Of the latter, one case gave me much perplexity, because I thought myself certain of the cause, yet by no medicines could I either cure my patient or bring away the worms.

When I dismissed her, I suggested my opinion of the case, in which she acquiesced, and told me, that her sister had been for many years subject to the same complaint, but that, after having tried every kind of vermifuge, recommended by physicians, she had taken bear's foot (helleborus fœtidus) in a considerable dose. At the distance of about two hours, after she had swallowed this, she had a fit, was violently convulsed for a considerable time, and was left for dead; but in about half an hour, she revived, felt an inclination to evacuate her bowels, and, at one motion, passed seventy worms *(the teretes)* alive, some of them nine inches long, and all twisted together in a round ball without the least admixture of fæces. The convulsions, I apprehend, were most violent whilst these worms were passing the pylorus.

From this time she never had an epileptic fit.

Dr. Ingenhousz informs me that to a man aged 40, at Vienna, who had epileptic fits, he gave in *one day* four pints of water supersaturated with carbonic acid air, by which

which he passed a great number of dead *worms* both up and down, and was cured of epilepsy. A long time after this he relapsed, and was cured in the same way. The Dr. says, that he has in a variety of cases destroyed worms by filling the alimentary canal with mephitic water.

Viscid mucus with indigested sordes in the stomach and duodenum, have been stated as one occasional cause of epileptic fits, and Dr. Fothergill considered this to be their most usual cause.

When they originate from hence, nature sometimes makes an effort to relieve herself by vomiting.

Van Swieten makes mention of a young man, in whom the paroxysm ceased whenever this symptom supervened; and, as the fits constantly returned at the full of the moon, he availed himself of this circumstance to prevent them by the timely interposition of an emetic.

Hoffman relates the case of a young lady, the daughter of an epileptic mother, who, having drank a great quantity of cold water during the operation of an emetic, which she had taken for a quartan ague, was seized with epilepsy, but soon relieved by drinking largely of warm water, which restored the vomiting, and cleansed the stomach; yet, after a time, the fits returned with increasing violence, but were again relieved chiefly by emetics and spontaneous vomiting.

The Professor on this case makes the following remark:

"This affection originated altogether in the primæ viæ, occasioned by indigested sordes, acidity, viscid phlegm, and bile, either in the stomach or the duodenum. And these also produced the intermittent."

Dr. Bondt, as we see in the Medical Commentaries of Dr. Duncan, mentions an epileptic patient, to whom he gave the bark of the geoffræa surinamensis in strong decoction, as a powerful anthelmintic.

This copiously evacuated a dense and viscid mucus both up and down, and, although it brought no worms to light, effectually cured the fits.

When the disease is occasioned by renal calculi, by obstructed

structed catamenia, by the hæmorrhoidal flux imprudently repelled, or by atonic gout, it must be considered as symptomatic, and the attention must be turned towards the primary disease.

Dr. Ferriar has favoured us with a very curious case of epilepsy, brought on by the retrocession of the itch (in consequence of some external application) and cured by inoculating the patient for the itch.

III. To answer the third intention, supposing epilepsy to have been induced by passions of the mind, by transient sensations, by irritation past, by thunder, by imitation, or by association of ideas, and to be supported, not by any fomes in the system, but by the power of habit; in this case, our plan of cure must be more especially to give vital energy near the period of accession, that, by preventing the fit, we may disturb the habit and thus ultimately effect a cure.

For this purpose, the same practices recommended to break the habits of intermittents will here also frequently answer our intentions.

As near as may be previous to the fit, bark, steel, wine, ether, opium, must be given with a liberal hand, so as to support the vital energy, taking care, at the same time, not by excess of stimulants to induce debility.

To direct his caution, let the student consult what has been recently delivered on stimuli, compared with what I stated, in the beginning of this work, whilst treating particularly of opium, wine, and ether.

Dr. Darwin, in a case of somnambulency, and *epilepsy*, which came on every morning at seven, gave one grain of opium at six, and in half an hour fifteen drops of laudanum in wine, increasing the opium. He ordered likewise bark with filings of iron twice a day, and in three or four days, the patient was restored to health. Zoonomia, II. § 34.

When the paroxysm returns nearly at a given hour, the attack may be prevented by a repetition of electric shocks, continued, as in the case of intermittents, beyond the period of accession.

In the case already mentioned of a lad, who had swallowed

lowed a great quantity of sloes, I stated, that after the cathartics he had no return of his fits for six weeks; but some time after the expiration of that term he came to tell me, that in the last twenty days he had ten fits, one every other evening, and nearly at the same hour.

As he had sufficient notice of their approach, I ordered him to return before the usual hour of attack.

He did so, and was electrified with gentle shocks till all the symptoms had disappeared, after which he never had another fit.

This, although it is the only case I have recorded, is not the only one I have cured by *electricity*, when the periods were distinctly marked, and the fits regular in the time of their approach.

And I remember Mr. Randall, who for thirty years practised medical electricity on a most extensive scale in London, assured me, that in similar circumstances he had seldom failed to cure.

We have remarked above, that thunder clouds occasion epilepsy, and here we see that electricity in some cases effects a cure.

No phisiologist has ever yet been able to ascertain precisely what office the electric fluid commonly performs in the animal economy.

We know that it is a stimulant exciting powerfully the action of the animated fibre, and we observe that it promotes the growth of vegetables, the evaporation of fluids, and the perspiration of animals, that it increases the flow of liquids from capillary tubes, and brings on suddenly in obstructed females their periodical discharge.

We see clearly, that it quickens with wonderful rapidity, both the acetous and the putrefactive fermentations, and that when it bursts impetuous from a cloud the vital principle is at once destroyed.

My valuable friend Dr. Fothergill, of Bath, assured me, that he saw a puppy killed by shocks of electricity sent through the head, and afterwards restored to life by gentle shocks directed through the region of the heart and lungs.

As often as the operation was suspended, the little animal

imal relapsed; but perfectly recovered by a repetition of the shocks.

The operator was Mr. PARTINGTON, of Cavendish square, who in the same manner cures Syncope and Asphyxia induced by lightning.

I have already mentioned electricity more than once, as an efficacious remedy, and shall have occasion to recommend it yet again in some chronic complaints.

To break the habit, by diverting the attention, and by introducing a new association of ideas, as well as by the attendant exercise and change of air, all medical practitioners have agreed in recommending a long journey, which frequently proves an effectual remedy in this disease, when all the usual remedies have failed.

I cannot conclude this article without requesting the student, to consult what has been delivered, in the preceding part of this work, on apoplexy, and what has recently been said on spasm.

Genus XLIII. CONVULSIO.

Convulsions.

THE symptoms are, alternate relaxations, with violent and involuntary contractions of the moving fibres, without sleep.

It is evident, that children, women, and other persons of manifest debility, are most subject to this disease; from whence we cannot hesitate to assign morbid irritability as the predisposing cause, and on this must be established our first indication of cure, in the liberal use of tonics and astringents.

The second indication will be to remove the occasional causes, which are the same as in epilepsy.

But in general it may be observed, that convulsions are most frequently sympathetic, and therefore to be cured by curing the primary disease.

Let the student, on this head, look back to what has been delivered on epilepsy and spasm, and forward to chorea and tetanus.

Sauvage gives a curious case of a young girl who was almost

almost incessantly, both night and day, convulsed in her head, eyes, tongue, neck, trunk, arms, fingers, feet, &c. yet retained her senses, and made efforts to answer when he spoke to her.

He cured her at the end of eight days by bleeding, followed by an emetic and a cathartic.

Genus XLIV. Chorea.

Dance of St. Vitus.

The symptoms are, convulsive motions of the limbs or trunk, with such uniformity as to represent the gesticulations sometimes used in dancing.

SECTION I.

Of the Remote Causes of Chorea.

This disease affects young people, chiefly those of a debilitated habit.

Hence we cannot hesitate to assign morbid irritability as the predisposing cause.

The occasional cause precisely as in epilepsy, to which I must refer the student, must be sought for in some error of the *non-naturals ;* or, as we may express it,

1. In something improper received into the system.
2. In something improper, that has been done, offering violence to nature.
3. In something retained, which ought to be evacuated.

SECTION II.

Of the Indications of Cure in Chorea.

The indications of cure must here be taken from the remote causes occasional and predisponent ; but the misfortune is, that, in the cure of this disease, the attention has been confined chiefly to the latter.

To obviate debility, and thereby to diminish morbid irritability, practitioners have been commonly contented with giving, either the flowers of zinc, or white vitriol, or the calx of zinc precipitated from the latter ; and oth-

ers have ordered the *cuprum ammoniacum*, given daily, beginning with one grain, and increasing gradually till the dose came to three or even four grains twice a day. But, in my opinion, attention should be paid first to the occasional cause, by obviating whatever error has been committed in the non-naturals, as expressed above, and then to the predisponent cause.

Dr. White, of York, makes mention of a lady, who, having by emetics brought up a great quantity of phlegm, was afterwards completely cured by flowers of zinc.

And Dr. Whytt, of Edinburgh, tells us of a girl, aged fourteen, who was cured by a diarrhœa, during which she discharged much viscid slime by stool.

I do not mean to suggest, that slime in the intestines is the only occasional cause to be regarded, for that would be inconsistent with what has been recently stated; but, that both slime and *worms*, with other irritating causes, applied to the alimentary canal, require particular attention, must be obvious to every one, who knows any thing of spasmodic affections. Hoffman was well aware of this, as appears by his chapter de rebus non venenatis, sed instar veneni in corpus humanum agentibus, where speaking of worms, he says, avermibus filia octo annorum ita fuit vexata ut caput, brachia & crura in continuo essent motu & caput adextro in sinistrum & contra brachia & crura sursum deorsum agitarentur. Tom. I. p. 235.

Yet the attention must not be confined wholly to irritation, arising from material causes, for there may be mental irritation, or such as affects immediately the nervous system, to be sought for as stated above, in various errors respecting the non-naturals. Therefore,

1. If any evil passions have been excited they must be restrained.

2. If any natural evacuations have been checked, they must be restored.

3. If any thing improper hath been received into the system, or generated there, it must be rejected, either by emetics, by cathartics, or by both, as occasion may require; after which the following prescription may be given:

℞. Limat.

℞. Limat. ferri, scr. 2.
Sulph. Antimon. præcip. scr. 1.
Aloe Socotrin, dr. 1.
Syr. Simp. q. s. f. Pil. 24.
Cap. ij. o. n.

That is,

Take filings of iron two scruples; precipitated sulphur of antimony one scruple; socotrine aloes one dram; syrup of sugar a sufficient quantity to make four and twenty pills, of which take two every night.

At the same time the angustura bark, with iron and aromatic spices, as ordered for epilepsy, must be given twice a day.

Or, agreeable to the practice and recommendation of Drs. Hart, Ganbius, White, Walker, Wright, Percival, Haygarth, and other eminent physicians, the more powerful tonics, such as the preparations of zinc and copper, in the doses already stated for epilepsy, or even arsenic, as recommended in intermittents, may be usefully prescribed.

To these should be added sea bathing, when it can be had; or the use first of a tepid, and then gradually of the coldest fresh water bath may supply its place.

Genus XLV. Tetanus.

The symptom is, spasmodic rigidity of almost the whole body.

SECTION I.

The History of Tetanus.

This disease is common in warm climates, more especially in summer, and is most frequent, when the scorching heat of a vertical sun is followed by heavy rain or by evening dew.

In the West Indies it may be considered as endemic among the negro slaves, who sustain the vicissitudes of heat and cold, more especially when, sleeping after a hard day's work, they are exposed to heavy dews.

But although it be endemic in warm climates, yet in every

every climate it frequently occurs after wounds, especially if the vital energy has been previously exhausted by intemperance, heat, p in, watchfulness, or hard labour, and this most commonly when excitement, pain, and inflammation cease.

Tetanus appears either as Opisthotonos, Emprosthotonos, or Trismus.

In *Opisthotonos* the body is drawn violently backward, and all the muscles of the neck and spine are affected with rigidity.

In *Emprosthotonos* we have similar spasms and the same rigidity, with this difference, that the body is drawn forwards, more especially the head. And, in addition to these distressing symptoms in both cases, *Trismus*, that is a locked-jaw, is apt to supervene.

In the first volume of the London Medical Observations may be seen a very particular description of Opisthotonos, by Dr. L. Chalmers, of South Carolina, of which the following are the chief particulars.

Stage the first —Stiffness about the back part of the neck, and general lassitude, so that the patient cannot turn his head without turning his body. He feels a sudden and painful traction under the cartilago ensiformis, which striking through to the back, increases instantly the rigidity about the neck, draws the head back, and shuts the jaws. Swallowing then becomes painful, and occasions return of spasm, which extends along the spine to the lower extremities. Pulse low and hard. Belly bound. Blood natural.

Second stage.—Spasm under the sternum returns every ten or fifteen minutes, followed by instant affection of the spine and jaw, continuing for a few seconds. Pulse variable from forty to eighty, always hard. Face pale at intervals, but most often flushed, and marked with expressions of distress. Rigidity becomes permanent. Drinking, moving, speaking, bring on the spasm.

Third stage. Spasms more violent, returning every minute and continuing longer; universal rigidity; the body being supported by the head and heels; the spine forms an arch. Pulse between the spasms quick, small, irregular.

irregular. Heat great; strong sweat; delirium. A general convulsion closes the scene.

The duration is from twenty four hours to six and thirty days. They who recover labour under such an atony, that for months they cannot raise themselves in bed without assistance.

SECTION II.

Of the Proximate Cause of Tetanus.

This, agreeable to Hoffman, is, violent contraction of the membranes surrounding the spinal marrow and the nerves proceeding from it, which causes impetuous influx of the nervous fluid into the affected muscles.

The convulsive irritation, according to him, may be induced two ways: for either the membranes of the spinal marrow, being directly irritated, are convulsed themselves, and draw into consent *(in hanc convulsionem societatem)* other parts connected with them; or, some of these parts, being first spasmodically affected, communicate stricture to the spinal marrow, from which it extends by consent to other parts, between which there is no evident connection, unless through the medium of the brain.

Hence he would distinguish two species of convulsive motion, idiopathic and sympathetic.

SECTION III.

Of the Predisponent Cause of Tetanus.

From the history of this disease it is clear, that the predisponent cause is morbidly increased irritability, as the consequence of extreme debility.

As for the source of debility in warm climates, it must be evident to every one, who has paid attention to the subject, that we need look for no other but excess of heat, unless among the slaves who endure extreme fatigue, and among such of the planters as are debilitated by intemperance and vice.

Let

Let the student however consult the preceding observations on spasmodic affection in general, and particularly those on epilepsy.

SECTION IV.

Of the Occasional Cause of Tetanus.

HITHERTO we have assigned only the predisponent cause, but have not pointed out the hornet, the wasp, nor yet the little fly, if I may be permitted to allude to the general remark, with which I introduced my observations on *spasm ;* that is, we have found irritability, but not the irritating cause. This in some cases, and those the most common, may be discovered in the alimentary canal.

Let the student recollect what has been said already, in the beginning of this work, of the effects of heat alternating with cold ; and likewise what every practitioner from the warm climates, either of the east or west, can teach him respecting those powerful agents, in loading the alimentary canal with bile and viscid mucus ; and he will not be at a loss to find an irritating cause.

In support of this opinion, let the student further recollect what I have quoted from three eminent professors, Whytt, Macbride, and Hoffman. The latter, in his laborious and most inestimable works, is constantly inculcating this doctrine, that spasm and convulsions have most frequently their seat in the stomach, and more especially in the duodenum. He says,

"Non frequentiores occurrunt convulsiones, quam quæ in duodeno potissimum intestino primarium agnoscunt sedem : in quo stabulantes cruditates acidæ, atque viscidæ, ob concursum biliosi ac pancreatici succi, promptissimè acrem ac causticam fere indolem acquirunt." Tom. III. p. 26.

When the intestines are relaxed and loaded with viscid mucus, *worms* can form a lodgment, and, by their irritation, are frequently the cause of tetanus.

In the Esprit des Journeaux for August, 1793, we have

have two cases of *tetanus* described and cured by Dr. Roucher, of Montpelier.

The first is of a man aged 25, who with a locked jaw had an Opisthotonos. This patient, by three grains of tartarized antimony, threw up a most enormous quantity of viscid mucus (une quantité énorme de matieres épaisses & glaruses.)

The other case is of a girl aged eight, who was freed from the same symptoms by anthelmintics with cathartics. She had copious evacuations, passed six worms, and by the repetition of these medicines she speedily recoverd.

Sauvage has a species of tetanus, which he denominates *convulsio Indica*, observed principally in the isle of Bourbon. It originates in the exposure of wounds and punctures, although healed, to cold ; and appears first as a cramp in the part, then as spasm in the head and back, but finally terminates in *trismus*, and, unless relieved, in death.

To cure it they open the wound afresh with a red hot iron, by which many are preserved.

In colder climates the most common cause of tetanus is, the partial laceration or even puncture of a nerve or tendon. Nay, should the tendon be merely touched, when deprived of its vagina, in a moment the whole system will be convulsed, and tetanus may be induced ; yet it is remarkable, that whilst the coverings remain, the tendons may be pressed between the forceps, may be stretched considerably, and may be even sewed together.

Boerhaave had once warned a surgeon not to touch a tendon, which, in a suppurated wound, had lost its coverings ; but the surgeon, by mistake, touched it with his forceps. Instantly the miserable patient was convulsed from head to foot, and for some time remained rigid with tetanus.

Hippocrates relates of Thrinon, the son of Damon, that having an ulcer on his ancle, to which a caustic dressing was applied, the irritation of the naked tendon induced an Opisthotonos, of which he died.

We have already noticed the connexion between epilepsy and tetanus in describing the attendant syptoms of the

the former, and it appeared, that one of these is sometimes tetanus.

Van Swieten mentions a patient, who, during the epileptic paroxysm, was seized, whilst he was present, with opisthotonos to such a degree, that he heard the vertebræ of the back bone crepitate, and saw the head drawn back almost to the posteriors.

Yet when sleep came on, this tremendous symptom was instantly removed.

SECTION V.

Of the Indications of Cure in Tetanus.

The indications of cure are,

1. *To obviate the morbid irritability of the system.*
2. *To remove the occasional cause whatever that may be.*

To fulfil the first intention we may pursue, either the highly stimulant plan, or we may rely on the common tonics and astringents.

Hippocrates reccommends the seeds of hyoscyamus; but modern practitioners of the greatest eminence, who have communicated their ideas to the world, and whose treatment has been most successful, are almost universally agreed in prescribing opium, in large doses, to be repeated frequently, till the spasm under the sternum ceases. Some of them give the tincture of opium, forty drops every four hours; others give it every half hour, till they have consumed an ounce in four and twenty hours, yet without producing the least approach towards intoxication.

To this powerful medicine some have added musk and camphor, without regard to quantity, till the whole tumult was allayed.

In a case of tetanus proceeding from a wound, a practitioner, of the highest eminence in London, gave a dram of opium and half an ounce of musk every four and twenty hours, and cured his patient.

In some cases the warm bath appears to have been eminently useful. Hippocrates considered warmth as mitigating pain, rigours, convulsions, tetanus; and, on the

the other hand, he affirms, that all these are induced by cold. On this principle he recommends warm fomentations, and his followers, Aretæus and Celsus, with some among the moderns, are of the same opinion. Dr. Chalmers, of South Carolina, particularly advises, that tetanic patients should continue in a warm bath, heated to 96 or even 102 degrees, till the pulse becomes soft and full, before the exhibition of the opium, which is then to be followed up in large doses every half hour, as I have before stated, till the spasm under the sternum ceases.

Dr. Rush, of Philadelphia, relies on tonics and astringents. He condemns the use of opium, and assures us, that by giving the Peruvian bark, three ounces in three pints of wine, within the four and twenty hours, he soon relieved his patients, and cured them in a few days.

Among the tonics, physicians are now almost agreed in recommending the cold bath.

In the sixth Volume of the London Medical Journal, Dr. Wright informs us, that, adopting from Dr. Lind the use of the cold bath in case of tetanus, that is by pouring two or three pails full of cold water every three or four hours over the body of his patient, he had never failed in a single instance to effect a cure.

Dr. Hutchinson cured one patient by *electricity*; and Dr. Colin, of Vienna, effectually relieved another by the flowers of *arnica*.

The second indication is to remove the occasional causes, which, as stated, may be,

1. *Viscid mucus.*

To evacuate this, emetics are absolutely necessary, and these must be followed by cathartics. For the former tartarized antimony, three grains, triturated with five grains of testaceous powder, may be given in the morning fasting; and, at night, for the cathartic, calomel will be found of all others the most efficacious.

Two cases are related by men of the most respectable authority, in which twenty grains of calomel were given in the space of four hours, with visible advantage, such

indeed as, by the subsequent assistance of wine and bark, effected a perfect cure.

In the Nosologia Methodica of Sauvage, Class VII. Order IV. Genus XXI. Species II. we have gastrodynia flatulenta, of which he gives the following description:

"Est vehemens dolor tensivus sub cordis scrobiculo, cum respirandi difficultate, flectendi antrorsum trunci necessitate pui flatuum emissione sublevatur; accedit pulfûs imminutio, depressio extremorum frigus, summa anxietas, præcordiorum angusta. Differt à gasteitide, à gastrodyniâ hystericâ aliisque, quod epigastrium pressionem à manu factam toleret, quâ aliâs exacerbatur dolor."

That is, a violent pain and tension under the scrobiculus cordis, with difficult respiration, a necessity of bending the trunk of the body forwards, which symptom is relieved by discharging flatulence collected in the stomach.

To these are added, diminution and depression of the pulse, coldness of the extremities, and straitness over the præcordia.

It differs from inflammation of the stomach, and from the hysterical affection of the same organ, in this particular, that the hand may be pressed upon the epigastrium without increasing pain.

Is not this a species of emprosthotonos?

If we compare it with the first stage of opisthotonos, above described by Dr. Chalmers, we shall find a remarkable coincidence of symptoms, which naturally directs the mind to seek some similarity, or rather identity, in the occasional and predisponent causes.

Among all the practitioners, with whom I have had occasion to converse, I never met with one who had ever seen, either the gastrodynia flatulenta of Sauvage, or the emprosthotonos of authors.

Yet I am intimately acquainted with a gentleman, who has been subject to a disease, of which I shall now enumerate the symptoms, and, as he has had it often, I can rely upon the accuracy of his description.

The first notice he has of its approach is a certain anxiety and dread of evil, which he is not able to express. He then perceives a pain,

pain, which he can cover with his finger, on one side or other of his breast, about two inches below the nipple. This gradually increases, with some little difficulty of respiration, total inability to raise his head, or to turn it either to the right hand or the left, without moving the whole body; the shoulders are drawn up; the chin drawn downwards, till it approaches the chest, where it continues fixed.

To this symptom is sometimes added, an absolute necessity of bending the trunk of the body forwards. If he is lying on one side, and wishes to relieve himself by turning to the other, he is obliged for that purpose to rise up in bed, and then fall into the position to which he looks for ease.

He can never bring up wind from his stomach till the disease is going off.

The pulse is depressed and slow; the extremities are cold; and he can bear any degree of pressure on the epigastric region without increasing pain. Costiveness is always an attendant symptom.

After having repeatedly tried the effect of cordial stimulants, under an idea that it might be a symptom of atonic gout, yet without obtaining the least relief, he had recourse to warm cathartics, by which, in a few days, the symptoms were somewhat relieved. But nothing was effectual, till he happily took first an emetic, which soon brought up a quantity of bile, and then calomel, which discharged bilious stools and a great quantity of viscid mucus.

Horse exercise, with steel and the Peruvian bark completed the cure.

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2. *Worms.*

These must be destroyed, not by aloetics, because these are too heating and irritate the system, but by santonicum, by spigelia, by decoction of *Geoffræa*, made with one ounce of the bark to fifteen ounces of water, of which the proper dose is about three ounces; or by calomel, followed by steel filings, rhubarb, bark, and bitters.

3. *The meconium.*

There is a species of tetanus to which newborn infants are subject, attended with locked jaw and opisthotonos. It is most frequent in warm climates, and is attributed, by the most judicious practitioners, to the neglect of nurses, in overfeeding their infants before they are cleared from the meconium. The method of cure adopted by Dr. Chalmers was, to cleanse their bowels by rhubard and clysters. This species is so destructive in Catalonia, that no one felicitates a parent on the birth of a child till the infant is nine days old. In Madrid, where the summers are much hotter, it is totally unknown.

4. *Wounds.*

4. *Wounds.*

If the nerve or tendon is lacerated, but not divided, all fear of tetanus will be removed by completing the division. And in all cases, where the spasm arises from local irritation, this may be relieved by cutting off the communication between the spinal marrow and the part affected, which may be accomplished either by compression, by the knife, or by a caustic.

In Catalonia they bathe the foot in oil, when the aponeurosis plantarum has been wounded. Experience justified this practice.

Dr. Rush has favoured us with one case, which is highly interesting, where a nail was run into the foot without producing inflammation, and the jaw began to be affected.

He dilated the wound, and poured in spirit of turpentine, which, producing pain and inflammation, cured the patient.

It is worthy of our observation, that a splinter under the nail produces no convulsions, nor will tetanus ensue, if pain, inflammation, and suppuration, have taken place.

5. Should any other occasional cause present itself to the attention of the practitioner, this must be obviated; but should the occasional cause, after his most diligent researches, be concealed, he must then place his whole dependance on the medicines which answer the first intention, that of removing the predisponent cause.

Genus XLVI. Palpitatio.

Palpitation of the Heart.

The symptoms are, bounding of the heart to be felt against the ribs, frequently with a small, weak, intermittent, pulse, and followed sometimes by Syncope.

SECTION I.

Of the Predisponent Cause of Palpitation.

The persons most liable to this disease are, those of a relaxed and irritable fibre; the young, particularly females;

males ; the plethoric ; those in whom accustomed evacuations fail ; and such as have been reduced by copious hæmorrhages or exhausted by disease. Hence it is clear, that the predisponent cause is debility and morbid irritability.

SECTION II.

Of the Occasional Cause of Palpitation.

Palpitations may be induced by passions of the mind, such as vehement desire, joy, anger, terror, and surprise ; or by muscular exertion, as in running, leaping, and the like ; by long continuance in a warm bath ; by flatulence and distention of the bowels ; by tight bandages round the waist or on the lower extremities ; and by eruptions prematurely checked.

Malpighius particularly remarks, that he was frequently attacked by troublesome palpitations, after eating legumina ; and Hippocrates observes, that flatulence always attends this affection of the heart. No wonder then, that hysterical and hypochondriacal patients should complain of palpitations.

Forestus, as quoted by Hoffman, relates the case of one, who, sleeping at noon with tight garters, was seized with palpitation, but relieved by loosening them.

It has also been established as a fact, that, by suppressing the sweating of the feet, by repelling herpetic eruptions or an exanthemata, as well as by the drying up suddenly of ill conditioned ulcers, and by the gout, when retrocedent, the same distressful symptoms has been produced.

I say nothing of polypus, because it may be the consequence of death and not the cause of palpitation ; nor do I speak of organic affection, because it is irremediable.

SECTION III.

Of the Proximate Cause Palpitation.

The proximate cause assigned by Hoffman is, stagnation and congestion of blood in the right chambers of the heart,

heart, inducing impetuous influx of the nervous fluid to the nerves and fibres of the heart, which excites their preternatural contraction.

In support of this opinion he suggests, that no organ is so plentifully supplied with nerves as this. It has no less than five pair. One from the par vagum, another from the superior intercostal, a third from the vertebral, a fourth from the inferior intercostal, and the fifth from the phrenic. The three first are derived from the brain itself; the two latter from the spinal marrow.

He remarks, that all the fasciculi of fibres and fibrilli composing the muscles of the heart, are each covered with the finest contexture of arteries and nerves.

This wonderful organ hangs suspended in the chest, so as to move freely; and, in case of palpitation, to bound with violence against the ribs, so as even to excite the absorbents and to destroy the bones.

Now when the blood, after having diffused a genial warmth and vital energy over the system, and after having supplied the secretory glands, but more abundantly the brain, with all that is needful for the performance of their functions, returns from the minutest through the larger vessels to the vena cava, and from thence, with the addition of chyle and lymph, received from the thoracic duct, by the subclavian vein, rushes into the right chambers of the heart; the swelling torrent, by distention, stimulates this organ to powerful contractions; and as the stream is prevented, by the tricuspid valves, from returning backwards to its source, it escapes through the pulmonary artery into the lungs, where, as already stated, it purges itself, and acquires fresh oxygen and heat.

From hence it returns by the pulmonary veins to the left chambers of the heart, to be again distributed throughout the system.

Thus the circulation is maintained till the silver chords are loosened, and the golden bowl is broken at the fountain.

Hence it is evident, that for the natural motion of the heart there is required,

1. A

1. A due proportion between the quantity of fluid to be moved, and the natural power of the heart.

2. A due degree of vital energy, or moving power, in the heart, and therefore a sufficient influx both of nervous fluid and of well oxygenated blood.

3. Perfect organization and freedom from incumbrance in the heart itself, and in the vessels, which either bring back the blood, or receive it from the heart.

But to cause that degree of palpitation, which is regarded as a disease, there is required,

1. *Some obstacle to free circulation*, as already stated, with,

2. *A more abundant influx of the nervous fluid to the stimulated part.*

This violent bounding and contraction of the heart, repeated with extreme rapidity, may be suspended, but cannot cease altogether, till the enemy is expelled and the remote causes are removed.

SECTION IV.

Of the Indications of Cure in Palpitations.

The indications will be evidently these,

1. *To quiet the violent commotion of the heart.*
2. *To promote a free circulation of the blood.*
3. *To remove the occasional causes of the disease.*

To answer these intentions, Professor Hoffman recommends diaphoretic antimony with nitre and testaceous powders, and speaks highly of his anodyne.

In case of flatulence, with costiveness, a dry skin, and cold extremities, he orders, with the above, frictions, the warm pediluvium, and carminative clysters.

Should these applications fail, and should the fulness of the vessels admit of bleeding, this may be tried.

Galen, and after him the most eminent practitioners, affirm, that venesection, with medicines and aliment of the attenuating kind, are infallible in the cure of palpitation; but this must be understood merely in cases of plethora, or uncommon spissitude and richness of the blood.

In

In cases that depend on debility and irritability morbidly increased, a generous diet, with tonics and astringents, must be freely given, as recommended in epilepsy and chorea.

In all cases the body must be preserved open, and the perspiration free.

Sauvage makes mention of fifteen species of palpitation, of which most are from organic affections. Of the rest we may remark,

11. *Palpitatio Arthritica.* 12. *Chlorotica.* 13. *Hysterica.* 14. *Melancholica.* 15. *Febricosa.*

These are evidently symptomatic, and therefore to be relieved by curing the primary disease.

Genus XLVII. Dyspnœa.

Difficult respiration, continual, and without sense of stricture; cough frequent through the whole course of the disease.

The idiopathic species are reckoned by Dr. Cullen,

1. *Catarrhalis*, with a frequent cough, throwing up a great quantity of viscid mucus.

2. *Sicca*, with cough mostly dry.

This includes *Dyspnœa a tuberculosis*, *D. a steatomatis*, *D. ab hydatidibus*, and *D. polyposa*, of Sauvage with his *Orthopnœa a lipomate*, which is the same disease with his *D. a steatomatis*.

3. *Aeria*, from change of temperament in the air.

4. *Terrea*, from earthly concretions in the lungs.

5. *Aquosa*, with deficiency of urine and œdematous swelling of the feet, but without fluctuation in the chest, or other symptoms of hydrothorax.

6. *Pinguedinosa*, in subjects who are oppressed with fat.

7. *Thoricica*, from deformity of the chest.

8. *Extrinseca*, from extrinsic causes.

This includes seven species of Sauvage, to be readily distinguished by the offending matter, whether dust, metallic fumes, poisons received into the stomach, or compression of the lungs by bronchocele.

Beside

Beside these species Dr. Cullen mentions twenty seven from Sauvage, which, like many of the former, are clearly symptomatic. Of these seven are derived from diseases of the heart and larger arteries; seven from tumors and distention of the abdomen, preventing the descent of the diaphragm; and thirteen from other diseases, including *Orthopnœa a virminibus*, which Dr. Cullen should have arranged under his *Extrinseca*.

Of all the enumerated species, Dr. Cullen has judiciously remarked, that they are diseases which either do not admit of cure, or belong to other diseases, as merely symptomatic, excepting only the *Extrinseca*, whose occasional causes are to be carefully avoided.

Genus XLVIII. Asthma.

Spasmodic Asthma.

The pathognomonic symptoms are, difficult respiration returning at intervals, with sense of stricture across the breast and in the lungs; wheezing; hard cough at first, but more free towards the close of every paroxysm, with a discharge of mucus followed by remission.

SECTION I.

Of the attendant Symptoms and Progress of Asthma.

Aretæus among the symptoms of asthma has remarked, previous to the attack, a tightness and stricture on the chest, unusual indolence, hoarseness, cough, distention of stomach, nausea, eructation, watchfulness, and deficiency of animal heat during the night.

As the disease advances, the cheeks are red and the eyes are prominent, as in strangulation.

The patient snores even if awake, but more when sleeping. He has in general the keenest and most impatient desire for fresh cool air; and for this reason feels distress, when confined within the limits of a house, although the apartments should be spacious.

From the same sensation of distress he raises himself upright and breathes with his mouth open.

The pulse is quick, small, and commonly oppressed.

Cotiveness, with vomiting of bile, and a copious discharge of limpid urine, are prevailing symptoms.

After dinner, and more especially after a full meal, there is commonly much flatulence in the stomach, with drowsiness and increased dyspnœa; but the violence of the paroxysm is commonly from about midnight till towards morning, when it is relieved by sleep.

In the progress of the disease, a slight fever of no certain type comes on, with evening exacerbations.

The face, the hands, and arms, begin to swell; the countenance is pale and lurid; the legs become œdematous; and ascites, anasarca, a dropsy of the chest, or a lethargy, supervenes. A torpor of the arms is felt, preceding partial paralysis, and the distressing scene is closed by suffocation.

SECTION II.

Of the Persons most subject to Asthma.

These are chiefly of the sanguine temperament, with small, but numerous, vessels; the corpulent and plethoric; but more particularly persons of a contracted chest; the intemperate, and such as have been debilitated by excessive hæmorrhage, or in whom any accustomed evacuations, either sanguine or serous, have been suppressed; those also in whom herpetic eruptions have been unseasonably checked, or ulcers suddenly dried up; but particularly those who are much oppressed with flatulence; and all these more especially at the vernal and autumnal equinoxes.

SECTION III.

Of the Causes of Asthma Proximate and Remote.

The proximate cause is certainly, a spasmodic constriction of the muscular fibres of the bronchiæ, communicated by consent to the larynx and the diaphragm.

The predisponent cause is morbid irritability.

The

The occasional cause is to be sought for in some error of the non-naturals, as already stated in the preceding section.

SECTION IV.

Of the Species of Asthma.

SAUVAGE enumerates eighteen species of asthma, taken principally from the works of Hoffman.

1. *Humidum.* 2. *Convulsivum.* 3. *Hystericum.* 4. *Hypochondriachum.* 5. *Arthriticum.* 6. A *Polypo Cordis.* 7. *Pulverulentorum.* 8. *Stomachicum.* 9. A *Gibbo.* 10. *Equinum* vel *Emphysematosum.* 11. *Exanthematicum.* 12. *Metallicum.* 13. *Cachecticum.* 14. *Venereum.* 15. *Plethoricum.* 16. *Catarrhale.* 17. *Pneumodes.* 18. *Febricosum.*

Of these, such as are not symptomatic are reduced by Dr. Cullen to three species:

1. *Spontaneum.* 2. *Exanthematicum.* 3. *Plethoricum.*

Species 1. *Spontaneum* is the same with the flatulentum of both Hoffman and Floyer, and with the stomachicum of Baglivi and Sauvage.

Among the specific symptoms are, previous to the paroxysm, fulness and distention of stomach; insipid eructation; tightness in the præcordia; copious discharge at night of limpid urine; weight, anxiety, and difficult respiration.

About two in the morning the paroxysm commences, and, if it is severe, induces bilious vomiting. The pulse is first quick and irregular, then weak and intermittent. In the progress of the fit the hands and feet are cold, the face becomes pale, there is sometimes heartburn with palpitation, and the whole is closed by sleep.

BAGLIVI, with the utmost propriety, considers this as an affection of the stomach.

Dr. WHYTT has particularly noticed sympathy with the stomach, when the nerves of this organ are affected by wind, phlegm, or crudities, as one cause of spasmodic asthma.

Species

Species 2. *Exanthematicum* is the same with the *convulsivum* of Hoffman.

The specific symptoms are tightness on the chest, painful sensations on the sternum extending to the scapulæ, torpor of the arms which sometimes become paralytic. In this species the spasmodic stricture is not confined to the musculo-tendineous membrane connecting the annular cartilages of the bronchia, but is communicated to the intercostal muscles, preventing thereby the expansion of the chest, and, as these constricted regions borrow their nerves from the vertebral and dorsal, which send branches to the arms, these parts must suffer as above described.

The occasional cause maybe sought for in the premature retreat of crysipelas, measles, or any other of the exanthemata; in the repulsion of herpetic eruptions, scald head, itch, &c.; or in the drying up of inveterate ulcers. It may be induced by a sudden check of perspiration in general, but more especially by repelling that of the feet, when copious and offensive, or, as frequently happens by retrocedent gout.

Species 3. *Plethoricum* is the same with the *sanguineum* of Hoffman.

The specific symptoms are, redness of the face, fulness of the vessels, with other symptoms of plethora; palpitation of the heart; pulse quick, unequal, small; and a slight pyrexia attending the first paroxysms.

It is induced by indolence in conjunction with full diet, but more particularly by the stoppage of accustomed evacuations.

In whatever part of the system spasmodic stricture first takes place, if it induces congestion in the right chambers of the heart and in the lungs, spasmodic contraction of the bronchial tubes and vesicles will be the consequence. For it may be universally received, that immoderate distention produces spasm, and spasm contributes to congestion. Hence it is that the lungs of those, who have died of this disease, have been discovered full of black, extravasated, and stagnant blood.

Dr. Darwin considers asthma as either, 1st. *humoral*, or

or 2d. *convulsive*, the former arising from torpor of the pulmonary vessels, or deficient absorption of the lymph effused into the air cells, and therefore connected with *anasarca*: the latter arising, like epilepsy, from sympathy with remote parts of the system, as on the retrocession of eruptions, or the irritation of worms in the alimentary canal. Zoonomia, Vol. II. p. 339.

SECTION V.

Of the Indications of Cure in Asthma.

THESE may be taken from the *proximate cause*, and then ether with opium must be given frequently in considerable doses, till the paroxysm is relieved.

℞ Æther vit. dr. 1. Tinct. Opii gtt. 40. Aq. font. un. 2. M. p. r. n. s.

Or, the indications may look towards the *predisponent cause*, which calls for tonics, such as the metallic calces, principally steel in its various preparations. But on whichsoever of these causes we build our indications, we must not be unmindful of the *occasional causes*, as already stated in the several species.

Species 1. *Spontaneum.* Here, as I have said, the occasional cause must be sought for in affections of the stomach, and I am confirmed in this opinion, not merely by the authority of the most sagacious practitioners, BAGLIVI, HOFFMAN, and WHYTT, but by a consideration of the symptoms, and more especially by the effect of an emetic, for in this species of asthma it never fails to give relief.

℞ Vin. Antimon. dr. 1. Oxymel Scill. dr. 6.
M. pro Emet.
℞ Ipecac. gr. 15. vespere sumed.

The former of these professors gave his emetic every morning.

Dr. THORNTON, having the misfortune to see his mother, and uncle, General Brathwaite, afflicted with *asthma* for more than twenty years, and his aunt subject to mucous expectoration, but without asthma, was naturally excited

excited to pay every attention to this most harassing and frightful complaint.

As *emetics* were the only remedies that gave them relief, but, being frequently repeated, aggravated the disease, by injuring the tone of the stomach; and as *bitters* with *bark* and *steel filings*, though at first of service, were contra indicated as locking up the accumulated mucus in the stomach, Dr. THORNTON from thence concluded, that in such *asthmas* the *emetic* and *tonic* plan might be successfully conjoined with the *inhalation of oxygen air;* for in asthmatic patients there is evidently a deficiency of the *vital principle* in the blood, as appears from their sallow countenances and cold extremities, arising probably from straitened respiration during each paroxysm, and because, when the stomach is diseased, the blood loses in some degree its attractive power for *oxygen*, as was before shewn. Nor has this ingenious physician been at all disappointed in his views.

During the last five years Dr. THORNTON has administered the pneumatic remedies to multitudes both of rich and poor, with remarkable success. From a number of interesting cases I shall, however, only select one.

THE Rev. Dr.————,an intimate friend of the celebrated oculist Mr WATHEN, had for more than two years been afflicted with *asthma*. The paroxysms were singularly severe, so that he could not breathe but in a contorted position of his body; they recurred regularly each night, and lasted in general from five to seven hours. Being quite exhausted, he would at length fall asleep, but awoke with a parched tongue and very languid.

He had been under the care of several very eminent physicians, and latterly under Dr. WARREN, who told him, with his accustomed liberality, that he was pursuaded, from a very extensive experience, that *asthma*, when once fixed in the habit, was not to be removed by art, however it might be palliated, and he must not therefore entertain the fallacious hope of a cure from medicine, and fly from physician to physician, but must patiently resign himself to the affliction. But daily losing flesh and strength, his family began to be very apprehensive, and Mr. WATHEN having told them of the extraordinary relief and final cure, obtained by a young lady of his acquaintance, in the most violent *spasmodic attacks*, when the prescriptions of the ablest practitioners could render her no service, and that an *asthma* even of *forty years* standing had been greatly relieved by the inhalation of the

the vital air, this gentleman was encouraged to confide himself to the care of Dr. THORNTON.

In ten days time, by cleansing the stomach of viscid mucus, and restoring the vital principle to the blood, his paroxysms were somewhat less violent; after which, by strengthening the system, and still continuing the inhalation of an oxygenated atmosphere, he had several intermissions, and in two months he was perfectly free from asthma.

He continued throughout the whole of last winter perfectly well, and at the present time is, as Mr. WATHEN informs me, in the full enjoyment of the blessing of health.

Species 2. *Exanthematicum.* From a consideration of the occasional causes, the special indication, which naturally presents itself, is to promote a determination to the surface, and to the lower extremities.

This intention may be answered by mild diaphoretics, by carminative clysters, by friction of the feet with either a hare's skin or a flesh brush, and by tepid pediluvium. To these, gentle diuretics and cathartics, such as nitre, sulphur, squills, and salt of tartar, may be added to advantage.

The subsequent prescription has produced wonderful effects, after others had been tried in vain.

℞ Flor. Sulph. un. 1. Pulv. Sennæ, Zinzib. āā dr. 2. N. Moschat. dr. 1½. Mel. un. 2.
M. f. Elect. c. M. N. M. bis in die.

That is,

Take sulphur one ounce; senna and ginger, of each half an ounce; nutmeg a dram and an half; honey two ounces. Make an electuary, and take the size of a nutmeg twice a day.

This composition has descended in the FERRERS' family from their ancestor, who was cured by Boerhaave, when the English physicians could give him no relief.

Hoffman for their common beverage gave his patients old hock and Seltzer Water. Dr. Whytt used blisters on the back.

Species 3. *Plethoricum.* The special indications arising from the occasional causes are,

1. *To obviate plethora.*

2. *To restore the accustomed evacuations.*

The first intention may be effectually answered by abstemiousness and regular exercise, by gentle laxatives, and by avoiding heat.

To

To answer the second intention the suitable evacuants must be resorted to.

In all cases of asthma, more especially in old subjects, I would earnestly advise the constant use of flannel next the skin.

Sir John Pringle recommends strong coffee during the asthmatic paroxysm; and Dr. Percival, of Manchester, has adopted this practice with manifest advantage.

Genus XLIX. Pertussis.

Chin Cough, or Hooping Cough.

The symptoms are convulsive strangulating cough with hooping, relieved by spontaneous vomiting. It is contagious.

SECTION I.

Of the Proximate Cause of Hooping Cough.

From all the observations I have made on this disease, it appears to be connected with, if not wholly dependant on, the affections of the stomach, and to have for its proximate cause morbid irritability chiefly of the stomach with increased action of its mucous glands. Yet such is the correspondence and consent between the stomach and the lungs, that it is not in all cases easy to determine, in which of the two is the original seat of the disease. In catarrh this consent has been already noticed, but more particularly in tussis stomachalis and in asthma; and we have occasion to make the same remark in hooping cough.

That in this disease there is produced a distressing quantity of viscid mucus or tough phlegm, we have ocular demonstration, and evidently see, that when the stomach has been cleared from this, the cough ceases for a time.

SECTION II.

Of the Indications of Cure in Hooping Cough.

Taking therefore morbid irritability chiefly of the stomach, with increased action of its mucous glands, for the

the proximate cause of chin cough, the indications of cure will be to remove the irritating cause, that is, the phlegm, and to diminish the morbid irritability of the stomach with the increased action of the mucous glands, the former by frequent emetics, and the latter by astringents, to which may be joined antispasmodics, and the inhalation of *vital air* diluted with atmospheric.

℞ Antimon. tartarisat. gr. 3. Aq. Menth. un. 3. Syr. bals. dr. 2. M. Capt. un. 1. omni horæ quadrante usque ad vomitionem.

Take tartar emetic three grains; mint water three ounces; balsamic syrup two drams: Mix, and take one ounce every quarter of an hour till it vomits.

℞ Cinchon. Rub un. 2. Aq. font. ℔. 3. Coque ad ℔. 2. Colaturæ un 3. adde Tinct. Asæ fœtid. gtt. 15. Tinct. Opii, gtt. 10. om. Sa h. s.

Take red bark two ounces, spring water three pints; boil it to one quart, and strain. To three ounces of this decoction add tincture of assa fœtida fifteen drops, liquid laudanum ten drops. To be given every eighth hour.

It frequently happens where emetics have been omitted, that children, after the hooping cough, are troubled with *worms*. These may be destroyed by calomel, and then the tonic plan must be pursued. I had lately a little patient three years and an half old, in the hooping cough; who, when brought to me, had that morning passed one and thirty worms, and in the preceding days twenty eight, many of which were from six to nine inches long. To this little infant I gave two grains of calomel every night, and three grains of jalap the succeeding morning. These procured two stools in the course of the day, brought away three worms, making the whole number sixty one, and in ten days perfected a cure of the hooping cough, without the assistance of emetics.

Genus L. Pyrosis.

Water-brash of Scotland, and Water-brash of the west of England, is a copious eructation of a watery insipid fluid, attended with heart burn. It frequently recurs, but being attended with no alarming symptoms, it has generally been left to nature.

Genus LI. Dysenteria.

Dysentery.

Of this the symptoms are frequent griping stools, chiefly mucous, sometimes mixed with blood and followed by tenesmus. It is commonly attended by pyrexia, and appears to be contagious.

SECTION I.

Of the Proximate Cause of Dysentery.

From all the observations I have made, I acquiesce in the opinion of Dr. Cullen respecting the proximate cause of this disease, and have therefore ventured to remove it from the pyrexiæ, and to arrange it under the class NEUROSES, in the order Spasmi.

It appears to be a spasmodic constriction of the colon induced by local irritation.

By this constriction the fæces are retained, and by the action of the absorbents they become hardened, and therefore increase both the irritation and spasm.

In consequence of this the mucous glands of the intestines are excited, either by the immediate action of the hardened fæces, or by consent to supply the mucus, which is hurried on by the quickened peristaltic motion of the intestines, and appears in frequent stools.

The same irritation, communicated by sympathy to the heart, quickens the pulse, but in the extreme arteries of the part affected produces either effusion of blood or inflammation. This again increases irritability, and consequently spasm.

The stimulus applied to any part of the intestines being propagated to the rectum, produces the *tenesmus*, that is, a most urgent and incessant desire to evacuate the fæces.

That the theory of Dr. Cullen is well founded will appear from hence, that when the hardened *scybala* are evacuated, the disease is speedily relieved.

Should it be suffered to continue, the villous coat will separate, and be discharged, mixed with pus or putrid sanies,

sanies, because the acrid matter acts like cantharides, when it brings on inflammation and separates the cuticle, or continuing to act when the vital energy is much diminished, induces sphacelus. All this agrees with observations after death, for the intestines have been discovered, not only in all the various stages of inflammation, of suppuration, and of gangrene, but with their diameters contracted, and their coats much thickened.

SECTION II.

Of the Remote Causes of Dysentery.

THE predisponent cause seems, as in the case of spasm in general, to be debility and morbid irritability, either general or partial.

The occasional causes may be,

1. *Putrid acrimony generated in the system.*

During the protracted heat of summer, the determination, as already stated in the observations on heat and cold, is to the external surface: but when cold and damp succeed to heat, and when the vital energy is much diminished, the determination is reversed, the perspiration is diminished, the urine is increased, and the secretions both of bile and mucus in the intestines are not only increased in quantity, but rendered more acrid, and by stagnation become putrescent. Hence arise dysenteries with putrid fevers, and the weakest are the first to suffer.

2. *Putrid infection.*

This, although apparently received into the lungs, seems to exert its first action on the mucous glands of the intestines, as appears by loss of appetite, sickness, nausea, vomiting.

In these ideas I am confirmed by revolving in my mind, what is related by Sir JOHN PRINGLE in his treatise on the diseases of the army.

The observations, to which I refer, were made in Zealand, and in Brabant, where the country is low and damp, and the springs are near to the surface of the earth; where the nocturnal fogs are thick and fetid, and where an autumnal sun exhales putrescent vapours.

In

In these circumstances, and in these situations, the army under his care was frequently attacked by putrid diseases in a variety of forms; more especially when hot days were followed by cold and foggy nights.

These at first appeared as tertians and double tertians, with foulness of the tongue, bitterness in the mouth, nausea, and desire of acids, putrid vomiting, and sense of oppression about the stomach.

Such were the symptoms in the camp on the first approach of this disease. But he soon had occasion to observe a connexion between these intermittents and the dysentery, because they who were first seized with dysentery, usually escaped the fever, if a plentiful evacuation followed; or if any of the soldiers were attacked by both diseases, it was alternately, so that when the flux began the fever ceased, and when the former stopped the other instantly returned.

Even in the camp it appeared to be contagious, but in the hospitals it took the form of a putrid malignant fever; insomuch that their bedding conveyed infection, and whenever the hospitals were crowded, a great mortality ensued.

He had occasion to remark, when the disorder came on with the most alarming symptoms, when the men were suddenly seized with headach, pain in their back, heat and thirst, delirium, bilious vomitings and bilious stools, tenesmus and pain in the region of the colon; the fever remitted on the evacuation of the first passages of the alimentary canal: yet without artificial evacuations nature made no cures, unless when a cholera supervened.

Profiting by this observation, he gave emetics, which were always most effectual when they were powerful enough to procure a plentiful discharge from both passages. After these he gave vitriolated tartar, and perfected his cures by rhubarb and the Peruvian bark, whilst to some patients, more especially if he discovered worms, he gave for a dose half a dram of rhubarb with twelve grains of calomel, but to other patients, who had merely dysentery, he gave one dram of rhubarb with five grains of calomel.

As

As to the nature of the contagion, Sir JOHN PRINGLE had occasion to observe, that it arose frequently from dead bodies left unburied in the field of battle; in one instance from the rotting of a whale; often from putrid carcasses of cattle, and from the effluvia of marshes in the autumn, and not unfrequently from foul ulcers, as well as from crowded jails and hospitals.

SECTION III.

Of the Indications of Cure in Dysentery.

THE idea which has been formed of the proximate, as well as of the predisposing and the occasional cause, naturally points out the indications.

1. *To relieve the spasm.*

2. *To cleanse the alimentary canal from putrid sordes, from scybala, and from every species of colluvies.*

3. *To sheath the irritated portions of the colon with mucilaginous substances.*

4. *To administer tonics with astringents, in order to prevent morbid irritability and the recurrence of the spasm.*

Such are the indications. And the effect of medicines, answering these intentions, confirms our ideas respecting the proximate cause of this disease.

The first operation of cathartic medicines is to bring away loose stools, but no effectual relief is to be expected till the hardened scybala appear. These being once evacuated, all the spasmodic affections are speedily relieved.

To effectuate this purpose, it is found necessary to have recourse to opium, and modern experience shews, that calomel, succeeding the operation of this powerful antispasmodic, is most efficacious in cleansing the alimentary canal from *scybala*. Sir JOHN PRINGLE ordered usually a bolus of rhubarb twenty five grains, with calomel five grains, to be taken in the morning.

Whilst I was in Edinburgh I paid particular attention to the practice of Dr. WHYTT in the treatment of this disease, because he seldom failed to cure it, although not so speedily as by the modern practice. He began with a powerful

powerful emetic ; after which he gave every night a bolus of rhubarb half a dram, japonic confection two scruples, liquid laudanum five and twenty drops. Sometimes instead of this he gave rhubarb and calomel, as recommended by Sir JOHN PRINGLE.

When he had in some measure cleared the bowels, he ordered,

℞ Cinchon. un. 1. Coque ex aqua font. ℔ 4 ad ℔ 2. Cola & adde confect. japon dr. 5. M. Cap. coch. 3. omni 4â. horâ.

Frequently instead of this, he ordered a decoction of *simarouba* with remarkable success. It is a powerful tonic, and at the same time promotes both perspiration and the discharge by urine.

℞ Cort. Simaroub. dr. 4. Coque ex aq. font ℔ 2. ad ℔ 1. Colaturæ capt. un. 3. sextâ quâque horâ.

The Practice of Dr. CULLEN was somewhat singular, yet successful. Every evening, about five o'clock, he gave an emetic of ipecacoan, and in two hours after it one grain of opium, followed in an hour more by five grains of ipecacoan, and then at going to rest a starch clyster, with one dram of bark and thirty drops of laudanum.

He strongly recommended ripe fruit, particularly oranges.

My practice, till lately, has been regulated by that of Dr. WHYTT, but in addition to his plan, I have been in the habit of giving a sheet of white writing paper dissolved in about a pint of milk.

This sheaths the colon, where the villous coat has been abraded, and preventing the local irritation, effectually relieves the spasm.

Dr. WARD for the same purpose gave an ounce of mutton suet dissolved in milk.

In the place of these, but with the same intention, Dr. COLLINGWOOD, of Sunderland, has recommended a decoction of the inner bark of the elm, which being extremely glutinous, lubricates the mucous membranes. Of this he administers two table spoonfuls after every stool, and on a trial of twelve years, recommends it to the public.

For

For the same purpose Dr. HERZ, of Berlin, after having cleansed the alimentary canal, orders *lichen islandicus* six drams, boiled in a pint of milk, of which three ounces may be taken often.

This lichen grows in elevated regions, and is found in Scotland, Westmoreland, Wales, and Woodstock.

To answer the preceding indications, the student may prescribe as follows, varying however the prescriptions as occasion may require.

For the *Emetic.*

℞ Ipec gr. 10. Antimon. tart. gr. 2. M. pro emet.

Or we may give a decoction of the bulbous roots of the common daffodil (hyacinthus poet.) which my friend Dr. H. SMITH first recommended to me, and which he considered as the most efficacious, as well as mildest emetic in the whole *meteria medica.*

For the *Cathartic.*

℞ Rhei, gr. 25. Calomel, gr. 5. M. Cap. mane.

For the *Anodyne* at night.

℞ Ipec. gr. 5. Opii, gr. 1. M. f. pil. horâ somni sumend.

For the *Anodyne Clyster.*

℞ Enem. de Amylo. Pharm. Edinb. un. 8. Tinct. Opii, gtt. 30. M. pro enem. horâ somni injiciend.

Or, in case of great putrescency, add to this one dram of Peruvian bark.

These medicines must be repeated till the disorder is removed; then give the following to prevent a relapse.

℞ Cort. Angustur. scr. 1. f. pulv. ter. in die, sumend.

Or, should the patient be much exhausted, you may give,

℞ Infus. Cort. Angustur. dr. 6. Tincturæ ejusdem, dr. 4. Pulv. ejusdem, scr. 1. Tinct. Opii, gtt. 30. Tinct. Lavend. Compos. gtt. 40. M. c. coch. 3. omni 4â. horâ.

Genus LII. COLICA.

Colic.

THE symptoms are pain in the lower belly, permanent, with twisting round the navel; vomiting; and costiveness.

SECTION

SECTION I.

Of the Species of Colic.

1. *Spasmodica*, with retraction of the navel, and the muscles of the abdomen so contracted into separate portions, as to resemble a bag full of balls.

2. *Pictonum*, preceded by sensation of weight and uneasiness in the abdomen, chiefly about the navel; the colic pain being at first slight, and not continual, but increased after eating; then more severe and perpetual, with pain of the arms and back, terminating in palsy.

3. *Stercorea*, after protracted costiveness.

4. *Accidentalis*, from acrid substances received into the stomach.

5. *Meconialis*, in new born infants, from the retention of the *meconium*.

6. *Callosa*, with sensation of stricture in some part of the intestines, and flatulence with pain: costiveness and discharge of liquid stools in small quantities.

7. *Calculosa*, with fixed hardness in some part of the abdomen, and calculi discharged by stool.

SECTION II.

Of the Proximate Cause in Colic, and Indications of Cure.

The proximate cause is spasmodic stricture in some part of the alimentary canal, chiefly in the colon, embracing a quantity of hardened fæces, which are the irritating cause. To understand this let the student consult the observations on Genus CXIII. *Obstinate Costiveness.*

The indications of cure must therefore be,

1. *To relieve the spasm.*

2. *To evacuate the hardened fæces.*

3. *To sheath the irritated portions of the colon with mucilaginous substances.*

4. *To strengthen the intestines by tonics and astringents.*

These intentions will be effectually answered,

By clysters of starch, two drams in four ounces of water, with half an ounce of linseed oil, and from twenty

ty to forty drops of thebaic tincture. This must be repeated without the tincture till evacuation of fæces is procured.

By castor oil, from one to three ounces, in cases of urgency, otherwise

By calomel, gr. 3—6, made into a pill or pills with soap. to which from half a grain to a grain of opium may be added. To be taken at night going to bed, and to be followed in the morning by infusion of senna with tincture of rhubarb. Sir JOHN PRINGLE was fond of the subsequent liniment, to be applied with warm flannel to the stomach:

℞ Camph. un. 1. Ol. Oliv. un. 2. Tinct. Opii un. 1. m.

Dr. PERCIVAL begins with clysters, ordering for that purpose a strong decoction of poppy heads, with thirty drops of tinctura thebaica, to be repeated till the pain and vomiting are relieved, after which he gives calomel and jalap with senna tea.

Let the student consult what has been said on the fourth indication of the preceding genus.

I would particularly call his attention to one occasional symptom; which, in the iliac passion, is inversion of the peristaltic motion in the alimentary canal, so as to discharge the stercoraceous contents of the intestines by the mouth. This illustrates what I have delivered on the several degrees of irritation, with the efforts of nature to relieve herself. For one degree of stimulus accelerates, another induces spasm, a third inverts the peristaltic motion, and this either topically, or by consent, throughout the whole extent of the intestinal canal, as in the following disease.

Genus LIII. CHOLERA.

THE symptoms are a purging and vomiting of bile; painful gripings; with spasms of the abdominal muscles.

It is a disease chiefly of warm climates, more especially when rain or heavy dews succeed a scorching sun.

SECTION I.

Of the Causes of Cholera.

THE student may recollect what I have said on the power of *heat*, in the beginning of this work, in relaxing the fibre, and inducing debility with morbid irritability, and of *cold*, as causing a determination to the interior surfaces and secretory organs. This, with relaxation of the vessels, produces a more abundant secretion of bile, which, like all other secretions, becomes acrid in proportion to the quantity poured forth.

The bile thus produced, either accumulates, corrupts, is absorbed, and diffused over the system, causing, with other stimuli in the alimentary canal, the *yellow fever* of the West Indies; or, from the increased irritability of the stomach and of the intestines, it is rejected by spontaneous purging and vomiting, as the most natural efforts of nature speedily to relieve herself.

Hence we trace the connection between these two diseases, and clearly understand why a cholera supervening, cures the *yellow fever* of warm climates, or the *bilious autumnal fever* of more northern latitudes.

The superabundance of bile, now acrid and highly stimulant, being diffused through the whole extent of the alimentary canal, in addition to the debility induced by heat, increases irritability at every instant, with all the violent effects commonly produced by excessive stimuli; which are, as stated above, acceleration or inversion of peristaltic motion and convulsion rapidly succeeding to each other.

As the debility proceeds, the external parts are drawn into consent, and the spasms are communicated, not only to the abdominal muscles, but to the extremities.

SECTION II.

Of the Cure of Cholera.

FROM what has been said, it will be clear, that the alimentary canal must, without loss of time, be cleared of bile and sordes.

But

But then, considering the increased irritability of the stomach and bowels as a chief part of the disease, the practitioner must be extremely cautious how he ventures to prescribe emetics; and in fact it has been too frequently observed, that in this disease vomiting, excited by emetics, is not easily restrained. For the same reason carthartics must be carefully avoided.

The most safe and efficacious mode of treatment is, to dilute with plenty of water gruel, and emollient clysters frequently injected; then to exhibit opium with cordial stimulants, and to close the whole with bark.

Let the student consult what has been delivered on dysentery and colic, between which and cholera there is an evident connection.

Genus LIV. Diarrhœa.

The symptoms are frequent liquid stools, with natural excrement; but not contagious, and seldom attended with pyrexia.

SECTION I.

Of the Causes Remote and Proximate of Diarrhœa.

In submission to my master, I have left Diarrhœa in the class NEUROSES, and in the order SPASMI, where it appears to have been attracted by colic and cholera. Yet reverence and submisson to a master were not my only motives; for in truth, I knew not where else to arrange it, unless I had either taken PROFLUVIA for a class, which I am not prepared to do, or removed it to the CACHEXIÆ, where under the order of MARCORES, one species of it might find a better place. I say one species, for we sometimes find a diarrhœa, which evidently depends on spasm, and may be therefore cured by calomel with antispasmodics, as colic is when hardened fæces have been discharged.

The proximate cause of *Diarrhœa*, when not dependent on spasm, is, increased action of the exhalants and excretories, with a proportionate increase in the peristaltic

tic motion of the intestines. The predisponsing cause is morbid irritability. The occasional causes may be the passions of the mind; poisons; cathartic medicines; the stimulus of food, offending either by quantity, by quality, or by fermentation, whether acetous or putrid; suppressed perspiration, more especially from cold applied to the feet; and in children, worms and dentition.

SECTION II.

Of the Indications of Cure in Diarrhœa.

For the indications of cure we attend,

1. To the occasional cause.

2. To the proximate and predisposing cause.

To obviate the occasional cause, we consider its nature, and if there be acrimony, we endeavour,

1. *To correct it.* 2. *To expel it.* 3. *To dilute it.* 4. *To lubricate the intestines by mucilages.*

If the perspiration is suppressed, we endeavour to restore it;

If there are worms, they must be destroyed.

If there is acidity, as in the case of infants, magnesia and testaceous powders must be given; or, if the exciting cause of diarrhœa is putrid sordes, acids must be used as occasion may require.

Emetics serve a double purpose, as they evacuate offending matters, and as they determine to the surface, restoring obstructed perspiration. With this view, ten grains of ipecacuanha, with one grain of blue vitriol, may be given in the morning.

To cleanse the intestinal canal,

℞ Pulv. Rhei, ℈j. Syr. Cort. Aurant. ʒij. Aq. N. moschat. ʒss. Aq. font. ʒj. M. f. H. h. s. s.

That is,

Rhubarb one scruple; syrup of orange peel two drams; nutmeg water half an ounce; pure water one ounce. To be taken at going to rest.

Or, if this should not speedily effect a cure, give one grain of ipecacuanha every three or four hours.

For drink, nothing is better than broth and water gruel alternately.

For

For sheathing and protecting the intestines from irritation, mucilage of gum arabic has been recommended, but in pure diarrhœa this can be seldom needful.

After having cleared the intestines, tonics and astringents should not be forgotten. Among these, in cases of diarrhœa, the simarouba stands pre-eminent, being at once tonic, antispasmodic, diaphoretic, and promoting sleep. The decoction may be made by boiling half an ounce in three pints of water, till it becomes a quart, and of this three or four ounces may be given three times a day.

Where the strength is much reduced, with a quick feeble pulse, and increased irritability in the alimentary canal, the Angustura bark combined with opium, as recommended in dysentery, produces excellent effects.

Tanners, when they have diarrhœa, are in the habit of curing it themselves, without the aid of a physician. For this purpose they drink about half a pint of their strongest oose made warm, that is, their strongest infusion of oak bark; and if occasion should require, they repeat the dose.

The younger students must be careful to distinguish one case which has been frequently treated as a diarrhœa with emetics, cathartics, demulcents, and astringents, not omitting antispasmodics, but all to no effect. Such a case I remember was submitted to my friend Dr. Barvis of Devizes, whose attention and sagacity few circumstances could escape. Every thing had been tried, and the patient was considered as incurable, till application was made to him, who at once declared it to be a case of constipation. He took notice, that, with incessant *tenesmus* and irritation in the rectum urging the patient continually to go to stool, scarcely any thing was voided, but small quantities of liquid, sometimes however mixed with a few scybala, or portions of the hardened excrement. Yet there was no colic, for the pain was referred chiefly to the rectum.

From these symptoms, the doctor was pursuaded that the constipation was in the last gut, and by a marrow spoon the servant extracted such a quantity of indurated fæces, that with the next cathartic the whole was cleared away,

away, when it appeared, that more than a quart measure full had blocked the passage.

Genus LV. Diabetes.

The symptoms are superabundant discharge of urine, which is limpid and sweetish to the taste; voracious appetite; thirst perpetual; skin dry; pulse more frequent and feeble than in a state of health; emaciation.

SECTION I.

Of the Proximate Cause of Diabetes.

A nosologist may be doubtful where to class diabetes; but the practitioner, with whom the rank it holds, is only a subordinate consideration, may be satisfied to leave it where he finds it, among those diseases which have morbid irritability for the predisponent cause. For my own part, I acknowledge freely a suspicion, that I should have arranged it under the class CACHEXIÆ.

To form any plausible conjecture respecting the pathology of this disease, it will be necessary to ascertain our facts.

1. The quantity of fluid discharged by urine is, in diabetes, usually more than has been vissibly received. A patient of Dr. Homes drank four pints a day, and passed from eleven to twelve.

2. Even solid food increases the urine; yet this most frequently exceeds the quantity of meat and drink united. Dr. Dobson mentions one, who took in, between liquids and solids, fourteen pounds a day, and passed by urine eight and twenty pounds.

3. The urine of Diabetes is sweet to the taste, and readily passes through the vinous and acetous fermentations. It contains much sugar, and being fermented with yeast, makes a liqour resembling small beer.

4. It is well known, that punch sometimes passes almost as soon as it is swallowed, that asparagus quickly give a peculiar odour to the urine, that in a very short space of time cassia renders it almost black, and that some liquids pass unchanged.

5. When

5. When this, at the commencement of the present century, was observed by M. MORIN, of the French academy of sciences, he concluded, that liquids have a shorter passage to the bladder than by the arteries and the kidneys. To ascertain the fact, philosophers have tied ligatures round the ureters of dogs, who have continued to pass urine as if no such operation had been performed on them. And Baron HALLER has particularly noticed the production of urine after the kidneys themselves had been totally destroyed.

6. It was generally admitted, that the cutaneous absorbents imbibe a quantity of moisture from the atmosphere. I know a gentleman who after hard exercise quickly gains some pounds, and Dr. KEIL without exercise acquired eighteen ounces in one night. Yet the experiments of Drs. Currie and Gerard prove either that there must have been some error in these observations, or that the acquisition of weight was derived through the lungs.

Dr. Gregory indeed caused a diabetic patient to be anointed with oil, after which the flux of urine, to appearance, was diminished: but Dr. Ferriar particularly states, in his late valuable publication, that in two cases of diabetes, the patients complained of profuse sweats at a time when the discharge by urine was considerable. And in the case of Clark, as published by the ingenious Dr. Rollo, it was evident that there was no absorption of fluids by the skin.

7. That liquids have a shorter passage from the stomach to the bladder than through the arteries and the kidneys, seems to be rendered probable by recent observations.

I understand that M. Carlisle, an amiable young surgeon, who pursues his anatomical researches with more than common ardour, has lately made ligatures on the pylorus after having filled the stomach of animals with aqueous fluids, by which he has been convinced, upon dissection, that some considerable absorbents, more than have been hitherto discovered, pass immediately from that viscus, for he found it empty. M. Gimbernat of Madrid, who, when he was a young man, dissected more bodies

bodies than any anatomist in Europe, detected vessels leading from the stomach, which he was not able to pursue, but which induced him to believe, that liquids may pass directly from the stomach to the bladder. Under this persuasion he has collected a variety of facts, all tending to confirm his opinion on this subject.

It has often happened, that on examination of stones extracted from the bladder, some extraneous body has been detected as the nucleus, which could not have passed in the common way of circulation. Some of these, as Van Swieten has very judiciously observed, had been introduced by the urethra: but others, I apprehend, are clear from this suspicion.

The possibility, therefore, still remains, that chyle may find its way unaltered to the urinary vessels.

8. On the other hand, if we admit with Dr. Baillie that in *diabetes* the kidneys are morbidly affected: that they are, as Dr. Cullen has remarked, *in a flaccid state*, and that the arteries of the kidneys are preternaturally enlarged, particularly those of the cryptæ or minute glands, which secrete the urine, as observed by M. Cruikshank; we may be inclined to think that the proximate cause of *diabetes* is to be sought for in these vessels.

We know that secretory organs in different states secrete fluids of very different qualities. Thus it is with the glands secreting the tears, which are sometimes acrid and corrosive; and with the salivary glands, which under the influence of mercury no longer secrete a saponaceous fluid. Thus it is with the stomach, which by the mere influence of the mind, ceases for a time to secrete a gastric fluid fit for digestion, in consequence of which symptoms of dyspepsia immediately ensue: but with the restoration of tranquillity there is a restoration of the digestive powers.

The glands of the breast, when cancerous, secrete no longer milk, but the most offensive and corrosive matter; and, not to mention the wonderful alterations in the bile produced under the influence of heat and cold, of poisons, and of the passions of the mind, we may remark the more wonderful changes which take place in the discharge

charge of ulcers, for this may be either inodorous, thick and yellow, or ichorous, pale, watery, acrid, and offensive to the noistrils.

The enlargement of the arteries in the cryptæ of kidneys, supposing this fact to be admitted, would shew increase of action, and the flaccidity of those organs would demonstrate their want of tone. But still it would be far from evident, that this organic affection is the cause and not the effect of the disease in question.

9. Dr. Rollo, in his inestimable work, proves that in diabetes there is diffusion of saccharine matter over the whole system, and that the quantity of sugar in the urine is increased by a vegetable diet, and diminished by animal food. From all that has been advanced it seems to follow, that the proximate cause of diabetes must be sought for in the process of digestion.

Besides this genuine diabetes, whose essential character is not merely a præternatural flow of limpid water, but water of a sweetish taste, and abounding with saccharine matter, we have other species which are purely symptomatic : for a profuse discharge of urine may be produced by fear, by the application of cold, by hysterical, febrile, and gouty affections, or by ligatures on the vessels of the spleen. Hence are derived the *diabetes insipidus* of Cullen, and *diabetes hystericus*, D. *arthriticus*, D. *febricosus*, and D. *artificialis*, of Sauvage.

SECTION II.

Of the Indication of Cure.

This from the view we have taken of the disease, will be to prevent the saccharine process in the organs of digestion, which must be attempted by total abstinence from vegetable food. By this practice Captain Meredith was cured in the first instance, and Dr. Rollo adds the cases of others who were either perfectly cured, or surprisingly and speedily relieved.

Dr. Griffith recommended the following :

℞ Myrrh. dr. j. solve terendo in mortario cum Aq. Alex. simp. [illegible] un.

un. 7. Aq. N. M. dr. 4. Tinct. Cort. Per. dr. 6. adde Kali. scr 2. Ferri vitriolati, gr. 16. Sach. alb. scr. 2. M. c. cochl. 4: ter in die.

Dr. Ferriar cured a patient with bark and elixir of vitriol.

Dr. H. Smith recommended a dram or two of the saturnine tincture to be taken thrice a day; but, as it appears to me, rash must be the physician who ventures to prescribe this dose.

Dr. Brocklesby ordered the flores martiales, with sea bathing; and when his patient, after a cure, relapsed, he gave the following:

℞ Flor. Chamœmel. gr. 25. Pulv. Aromat. gr. 3. Rhei, gr. 2. M. c. ter in die.

With this he gave alum whey half a pint twice a day.

Dr. Beddoes was intimately acquainted with a gentleman who was thrice cured by Bristol water, and numerous patients have borne testimony to its salutary effects in this disease.

Genus LVI. Hysteria.

The pathognomic symptoms are, a grumbling noise in the belly followed by *globus hystericus*, or a ball ascending to the throat with a sense of suffocation; stupor; insensibility; convulsions; laughing and crying without visible occasion; sleep interrupted by sighs, and attended by a rumbling in the bowels.

SECTION I.

Of the Attendant Symptoms.

Hoffman calls hysteric affection a cohort of diseases; Sydenham compares it, for the infinite variety of its forms, to Proteus, and for the mutability of its appearances, to a chameleon.

Among the most distressing symptoms may be reckoned a pungent pain in some part of the head, called *clavus hystericus*, attended by vomiting; cough; colic, imitating iliac passion, and terminating by suffusion of bile; diarrhœa; strangury; spasms; nephritic pain; swelling of

of the ancles, chiefly in the morning and without pitting; pains in the back and in the teeth; coldness of the extremities; flatulence, lassitude, and palpitations.

We observe, likewise, remarkable sensibility and irritability of mind; spirits elated, depressed, and variable, independent of visible occasions, with a disposition equally to laugh or to cry upon the most trifling excitements; ridiculous fancies; frequent, sudden, and profuse discharge of *limpid urine*, more especially previous to the paroxysm.

When this disorder terminates fatally, it is, like as in epilepsy, by the apoplectic stroke. But commonly the paroxysm quiets for a time all spasmodic symptoms, leaving the patient languid and universally relaxed.

SECTION II.

Of the Predisponent Cause of Hysteria.

THE persons most liable to this disease are females, from the time of puberty to the age of thirty five, unmarried women, and young widows, chiefly those of the sanguine temperament; of a relaxed habit; of great sensibility; and of an irritable fibre; more especially after profuse evacuations, whether sanguine or serous; the indolent, and those who are exhausted by either long protracted fevers or habits of intemperance; and such also in whom the uterine hæmorrhage is unseasonably stopped, or habitually obstructed.

Can we therefore hesitate to assign as the predisponent cause, debility with morbid irritability?

SECTION III.

Of the Occasional Causes of Hysteria.

1. *Violent excitement in the brain.*
   - *a.* By the sensations of pain or pleasure.
   - *b.* By the passions of joy, grief, anger, fear, surprise.
   - *c.* By distention of the blood vessels.

2. *Irritation.*

2. *Irritation.*
   a. In the stomach.
   b. In the uterine vessels.
   c. In the ovaries and spermatic vessels.
   d. In the olfactory nerves.

SECTION IV.

Of the Proximate Cause of Hysteria.

Sydenham, for the proximate cause, assigns an *ataxy*, or disorder of the animal spirits, that is, vehement action in particular parts of the system, which being endued with exquisite sensibility, are thereby affected with pain and spasm, whilst the other parts suffer equally from defect of nervous energy; and by this unequal distribution all the functions are disturbed.

But Dr. Cullen considers the chief part of the proximate cause to be mobility of the system, depending generally on its plethoric state. This opinion seems to confound the proximate with the remote causes: for debility with irritability are the predisponent cause, and the *stimulus of distention* can be only an occasional cause of this affection.

To me it appears, that the proximate cause is nearly the same as in epilepsy, with which the hysteric paroxysm has a remarkable affinity.

Hoffman has left us two valuable cases, in which the two diseases were combined; and Dr. Woodford has favoured me with an account of Mr. P——a surgeon at Trowbridge, who after either intoxication, or agitation of mind, was usually seized with violent convulsions, rolling of his eyes, frothing at the mouth, complete insensibility, followed by deep sleep: yet these fits were always attended by violent laughter and globus hystericus.

SECTION V.

Of Hysteria as distinguished from Hypochondriasis.

The older physicians, Boerhaave, Sydenham, Van Swieten,

Swieten, with the sagacious Whytt, consider these diseases to be the same: and even Hoffman, notwithstanding his efforts to distinguish, yet confounds them; for of fourteen cases, supposed by him to have been hypochondriasis, some are evidently hysteria.

This confusion is the more remarkable, because in the first place Dr. WHYTT, although he declares these affections to be one, yet most clearly distinguishes them, stating *hysteria* to depend on morbid irritability, and *hypochondriasis* on torpor, as appears by his second chapter on nervous disorders: and HOFFMAN, in his cautions and practical directions, sect. iii. makes the same accurate distinction.

It is to Dr. CULLEN we are indebted for the just arrangement of these diseases, which have nothing in common, but dyspepsia, flatulence, and debility; yet even in this they differ, for in one we have debility with irritability, in the other the debility of torpor.

SECTION VI.

Of the Indications of Cure in Hysteria.

THESE are, 1st, to remove those predisponent causes in the body, which render it peculiarly liable to hysteria.

2. To remove or correct the occasional causes, which, especially in such as are predisposed, produce the numerous train of hysteric symptoms already mentioned.

I. The first intention may be answered by bitters, bark, steel, a generous diet, cool air, cold bathing, regular horse exercise, and agreeable amusement.

For bitters we may take myrrh, gentian, centaury, orange peel, or quassia. To the infusion of these may be added, cassia lignea as an useful aromatic; steel, which is the most powerful remedy, may be given as recommended by SYDENHAM, in filings, from five grains to fifteen, twice a day; or the celebrated prescription of Dr. GRIFFITH, mentioned under Phthisis, may be here advantageously adopted.

This venerable doctor relates the case of a young lady, tender, delicate, hysterical, who scarcely slept; hurried by

by opiates and distressed by fœtid medicines, receiving no relief from bark and cordials, who had frequently profuse sweats, which lasted for twelve hours at least. This young lady voided much pale urine; had great thirst; no appetite; spasmodic retchings, with pulse quick and low. In addition to these symptoms of debility and irritability she was much inclined to faint; yet by the foregoing preparation of myrrh and steel, she was soon restored to health.

In cases of hysteric affection Dr. WHYTT depended chiefly on the bark with gentian, and from him I took my ideas in the treatment of hysteria, having observed that his practice was successful. The instructions delivered in his public lectures, and the information with which he honoured me in private conversation, are the same as have been communicated in his treatise on this subject, a work which is inestimable for strong reasoning, and for facts clearly stated. He recommends the following:

℞ Cinchonæ, un. 4. Gentian. Cort. Aurant. aa. un. 1½. Sp. Vin. gal. ℔ 4. Digere per 6 dias. Capt. dr. 4 bis die.

That is,

Take Peruvian bark four ounces; gentian and orange peel of each one ounce and an half; brandy two quarts; digest for six days. Take half an ounce twice a day, and continue it for months

With the same intention the learned and ingenious Dr. LETTSOM recommends white vitriol with aromatic bitter.

℞ Ligni Quassiæ, dr. ½. Aq font. ferventis un. 6. Digere, cola, & hujus colaturæ un. 1½, adde Zinci vitriolati, gr. ss. ad gr. 4. Tinct. Cardam. dr. 1. Test. Ostr. ppt. scr. 1. M. f. H. ter de die sumend.

That is,

Take quassia half a dram; boiling water six ounces; let them stand until cold; strain; and to one ounce and an half of this add white vitriol from half a grain to four grains; tincture of cardamoms one dram; oyster-shell one scruple. Mix. To be repeated three times a day.

A generous diet is essential in every case where debility and irritability prevail.

SYDENHAM relates that he was sent for to a convalescent, who having been, during a fever, severely handled by his physician, and, after excessive evacuations, forbid the

the use of animal food; became so enervated, that without visible occasions, he frequently, as if overwhelmed with grief, shed floods of tears, attended by deep sighs, and sobbing. which bordered on convulsions. SYDENHAM immediately ordered him a fowl and wine, with such an excellent effect, that the convulsive weeping never more returned.

One caution however is needful. Let hysteric patients be extremely careful not to overload the stomach. They must eat little and often.

If the student recollects, what I have said upon digestion, he will see the reason for this caution, a caution the more needful because such patients are almost universally inclined to transgress in this respect.

The consequence of this transgression is flatulence, with spasmodic affection in the alimentary canal, which, if neglected, will draw other parts of the system into consent.

When I was in London last winter, I had the pleasure of meeting, at the house of my friend Dr. Thornton, an amiable young lady, who spoke with rapture of the benefits she had received from the *vital air*. Since her arrival from Italy, which was two years ago, in the vicissitudes of this climate, she early experienced a considerable diminution of strength, appetite, and spirits. She took in consequence a vast quantity of bark, steel, and other tonics, under various physicians, but with no alleviation of the symptoms. When she became a patient to Dr. THORNTON, she was so weak, as scarcely to be able to walk across the room; she was subject to hysteric fits, which occurred three or four times each day; and the least angry word, or slightest contradiction, excited a flood of tears. Her feet were cold as ice; but after taking food, more especially if she used an acid, she had heat and flushings of the face, while the rest of the body remained nearly as cold as her extremities.

Having the greatest aversion to every kind of medicine, she made trial only of the vital air, except an occasional aperient draught of rhubarb and sal polychrest in some peppermint water. In a fortnight, by the daily inhalation of vital air mixed with atmospheric, the hysteric fits returned no more; her appetite improved; her spirits rose; cold was less severely felt; and her strength was so far increased, that she was able, after a fortnight, to walk near a mile, to attend on Dr. Thornton. If at any time she left off for a few days the inhalation of the vital air, she experienced the most uncomfortable sensation of cold, and less muscular powers, with pain in her stomach; all which symptoms were removed as often as she recurred to the use of vital air.

I took occasion to remark, at the conclusion of the case of bilious autumnal fever, that when the typhus was completely cured, nothing remained but *hysteric affection*, and that a remarkable connection was to be observed between these two diseases, such as may direct our practice in the treatment of them both.

In typhus, debility and irritability are seen in the extreme; hence the impatience of light and of sound, and the quick sensibility of both the taste and smell. This irritability is not however confined to the organs of sense: it affects the mind. It is manifest likewise in the pulse, which is quick, weak, and small.

These, but not in the same degree, are the symptoms of hysteria. In both, we find the patient equally disposed to laugh or cry.

In both diseases, the indications are to correct the morbid irritability by astringents and by tonics, and in both, the effect upon the pulse is similar, this being rendered slower by animal food, by opium, and by wine.

When the typhus fever, in the case already stated, was succeeded by *hysteric affection*, the cure was effected by Dr. THORNTON in the following very judicious manner:

℞ Cinchonæ, scr. 2. Serp. Virg. scr. 1. Cascarill. gr. 10 M. f. Pulv. 2 a. q. h. s. superbibendo Vin. Rub. un 2.

This promoted a gentle perspiration at the same time that it increased the power of life, as appeared in the first instance by the pulse, which gradually became stronger and less frequent.

In a few days the snakeroot was omitted, and in its place was substituted the rust of iron in this form:

℞ Cinchon. un. 2 Chamæmel. un. 1½. Fer. Rubig. scr. 1. Syr. symp. q. s. f. Elect. c. c. M N. M 4 a. q. h

To keep the body soluble, *butter-milk* was given in the evening, which assisted likewise to procure refreshing sleep.

Particular care was taken not to overload the stomach with food, and for this purpose it was frequently exhibited in small quantities, but never, till the appetite was keen. By this conduct, the gastric juice, being always ready, and sufficiently abundant to prevent fermentation

and

and the evolution of air, whilst at the same time it acted as a solvent, nutrition made a rapid progress, and flatulence was totally avoided.

All his nourishment was given him by weight and measure, and so regular was the process of digestion, that Dr. THORNTON knew, precisely by the clock, when his patient would awake and call for food.

If nourishment was not immediately at hand, the genial warmth and moisture of his extremities was succeeded by dryness in the palms and coldness in the limbs, which symptoms were speedily removed by either wine or food. These never failed to produce a universal glow and gentle perspiration.

It was likewise remarked, that when at any time there was irritation in the rectum, with tenesmus and colliquative stools, these symptoms were instantly relieved by food and wine.

II. In hysteria, the second indication of cure is, to remove the occasional causes.

If the irritation be from indigested food, bile and viscid mucus in the first passages; these must be removed by emetics, which should be taken dry; for warm liquids relax the fibre and increase debility. One grain of blue vitriol and two of tartarized antimony may be given early in the morning, and must be frequently repeated.

To cleanse the bowels, you may order four or five grains of rhubarb, before breakfast and dinner, with a double dose at night, always remembering to administer tonics after evacuants.

Hoffman on this subject says, experientiâ ducti asseveramus, primam regionem, quæ vitiosorum humorum colluvie plerumque valde repleta est, accommodatis remediis esse expurgandam.

And Sydenham universally began his curative process by three or four cathartics, before he exhibited the steel and tonics.

I must here request the student to consult the case of the young woman mentioned by Dr. Whytt, in chap. viii. sect. ii. p. 469, of his Treatise on Nervous Diseases.

July 20. She was seized with violent convulsions, fol-

lowed by syncope, and returning from 12 to 18 times every day on hearing the least noise, even of a tea cup, or the opening of a door; yet between the fits she was uncommonly cheerful and jocose. After having tried in vain all that musk, camphor, castor, asa fœtida, and laudanum, could do for her, she took bark and valerian. Soon after this she was seized with severe *asthmatic* fits, which together with the faintings and convulsions often made the number of paroxysms amount to thirty in a day.

August 9. She took an emetic, threw up much bile, and escaped her fits. This was repeated nearly every other day with similar success, and by following this process every other morning, with a small dose of elixir sacrum sometimes at night, before the beginning of September she was perfectly recovered.

Should there be much tough phlegm or viscid mucus in the alimentary canal, you may prescribe limewater three times a day, in addition to the emetics and moderate cathartics.

As for opium, camphor, castor, musk, and asa fœtida, so frequently recommended as antispasmodics, they are merely palliative, and to be resorted to on the most urgent cases of distress, such as violent hysteric *colic*, in which Dr. Whytt usually ordered a clyster, with seventy or eighty drops of laudanum, that by favour of this opiate some pills of aloes and calomel might be thrown in.

In ordinary cases of *flatulence*, with costiveness, he combined asa fœtida with aloes and steel.

℞ Asæ fœtid. dr. 2. Aloe. Soc. Ferri Vitriolat. Zinzib. aa. dr. 1. Elix. propriet. q. s. ut fiant Pill. gr. 4. c. c. 3. o. n.

Take asa fœtida two drams. Socotrine aloes, salt of steel, and ginger, each one dram. Elixir proprietatis a sufficient quantity. Make pills of four grains each, and take three of these every night.

For the salt of steel, I usually substitute steel filings, and for the aloes I order rhubarb.

Many physicians are fond of bleeding in spasmodic affections, and it frequently relieves the patient; but then it should always be remembered,

1. That plethora implies a laxity of the solids, and therefore some debility in the moving fibres.

2d. That

2d. That loss of blood brings on debility, and being repeated, ultimately increases plethora.

3. These propositions have been demonstrated by Dr. Cullen. But in addition to these, I must observe, that by frequent bleeding, the most moderate distention, such is the force of habit, becomes a powerful stimulus and produces spasm.

It is remarkable that parrots, if highly fed, not having exercise in proportion to their food, are apt to suffer by the distention of their plumage. To relieve themselves, they pluck out the most luxuriant feathers. Others quickly supply their place, and in succession are destroyed, till the stimulus of even the smallest feathers become intolerable, and are plucked out as soon as they appear.

This reasoning might be extended, for the same principle prevails in a variety of cases interesting as well to the moralist as to the medical practitioner.

A venerable professor of Edinburgh, recommending venesection, mentioned to his pupils, as an example of the facility with which the body creates new blood, the case of a lady, whom he bled more than an hundred times in the space of three years for spasmodic affections. Yet he confessed that the laxity of the solids, and the consequent morbid irritability of the moving fibre increased daily, in proportion to the loss of blood.

SYDENHAM bled once, and then having cleansed the alimentary canal, placed his whole dependance on tonics, astringents, pure air, and constant exercise.

Instead therefore of repeated bleedings, should there be distended veins, a florid countenance, a strong pulse with vertigo and dyspnœa, it will be needful to advise more exercise and a less nutritious regimen than usual.

Should hysterical affections be induced by worms, these must be destroyed by anthelmintics; after which the tonic plan must be pursued.

When atonic gout, amenorrhœa, or fluor albus, are the occasional causes of hysteria, the attention must be turned to what has been said on those primary diseases.

In the *hysteria libidinosa*, it will be particularly necessary to obviate morbid irritability by tonics, astringents, the

the cold bath, cool air, and constant exercise: we may give wine and animal food, but in moderation, and must forbid the use of spices with high seasoned dishes. The patient must be cautioned to avoid crowded assemblies and hot rooms.

So much for the predisponent cause of this affection.

The occasional causes call for more particular attention. These are commonly mental excitements by improper conversation or by books. Such therefore must be carefully avoided; and in their place must be substituted whatever can agreeably occupy the mind and not inflame the imagination. Solitude must be strictly forbidden, and a change of scene respecting society, residence, and usual haunts, must be strongly recommended. This may most effectually be obtained by travelling, which implies incessant change of company, of place, of air, with unremitting exercise both of body and of mind.

By these means the associated ideas and excitements will be changed, bad habits will be broken; accumulated irritability will be expended; mental and corporeal strength will speedily return; and the humiliating disease in question, will no longer cause distress.

I have frequently observed, with pity, this affection in the south of Spain, and have known it most absurdly treated by the confessors, who should have been the last consulted. These blind leaders of the blind, instead of committing their tender charge to the care of the physician, recommended every thing which could confirm the evil. They charged guilt, where no guilt existed; they increased distress of mind, and they imposed penance; all tending to induce debility with irritability; to rivet the attention, which ought to have been diverted; to inflame the imagination; and to render those affections permanent, which, if left unnoticed, would have been transient as the vernal breeze.

Genus LVII. Hydrophobia.
Canine Madness.

The characteristic symptom is a dread of water, as inducing painful convulsions of the pharynx.

We

We have a very accurate description of this disease by Dr. WOLF, in five cases of persons who died of this dreadful disorder. The eye, as in typhus fever, is impatient of the least light; any bright colour creates uneasiness; the mind is very irritable; the best friends are disliked. It is remarkable that the lint, or other dressings, when taken off discover a *black* surface, even though the wound may discharge good pus; the fauces have no appearance of redness; the face, which at first is pale, becomes brown, and during each spasmodic attack turns almost quite black; the lips are extremely livid; as the disease advances each paroxysm is less violent; the patient has intervals of reason; the dread of strangulation from water goes off; the pulse becomes weak, quick, and fluttering; and the body feels remarkably cold; he then composes himself as it were to sleep, and expires. Upon dissection there is not to be found the least trace of inflammation.

From this appearance of things, have we not reason to expect some advantage from the inhalation of *vital air?* Opium, camphor, musk, and submersion, have from repeated trials justly lost their reputation in this fatal disease.

M. MATHEU, after bleeding and purging, excites as soon as possible salivation. He says, "the hydrophobia "yields, as it were, by enchantment, when the salivation "appears; and it must be kept up according to the de- "gree of the disease and the strength of the patient." The illustrious Sauvage, speaking of mercury, declares, "After many enquiries, I know not whether mercury "has ever failed, even when the hydrophobia had com- "menced."

When the contagion of a putrid fever is taken by the saliva into the stomach and bowels, which is its constant road, if the patient, the moment he finds himself attacked with a sense of chillness, loss of appetite, and an unpleasant taste in his mouth, has recourse to two emetics at proper intervals, and after the operation of the first emetic, takes a cathartic, he has certainly got rid of the infection: in the same manner, even after three days, or perhaps

perhaps a week, if the part bitten by the dog be cut out with the knife, the danger is escaped. But sometimes it will happen that the patient will not submit to this operation, or to the application of the lunar caustic, which perhaps may be preferable to the knife, and it then becomes an object of enquiry, what next should be done? This was the case three years ago. Five men were bitten by a dog supposed to be mad, and which was shot. The village doctor, who knew in this disease nothing beyond the knife, finding his patients refuse the operation, had recourse to Dr. THORNTON for his advice. This physician recommended the application of hot vinegar sharpened with vitriolic acid, the wounds being first scarified; and the events turned out favourable.

Class II. NEUROSES.

Order IV. VESANIÆ.

Judgment impaired without either Coma or Pyrexia.

IN this order Dr. CULLEN has enumerated four genera, *Oneirodynia*, *melancholia*, *Mania*, and *Amentia*.

Genus LVIII. ONEIRODYNIA.

Incubus, or Night Mare.

THE pathognomonic symptom is, vehement or distressing imaginations during sleep.

INTRODUCTION.

THE difficulties attending methodical arrangement must here be pleaded as an excuse for giving oneirodynia a place with the vesaniæ: yet this disease, I trust, will throw light on others, in the front of which it stands.

SECTION I.

Of the Species of Oneirodynia with Synonima.

Dr. CULLEN has two species.

I. *Gravans*, with a sense of weight and pressure on the chest.

II. *Activa*,

II. *Activa*, exciting to various motions, and more particularly to walk.

I. ONEIRODYNIA GRAVANS is the common *incubus* or *night mare*.

This, by Sauvage, is called *ephialtes*, and is distinguished by him into six species.

1. *Ephialtes plethorica*. 2. *Ephialtes stomachica*. 3. *Ephialtes ex hydrocephalo*. 4. *Ephialtes verminosa*. 5. *Ephialtes tertianaria*. 6. *Ephialtes hypochondriaca*. But his ephialtes tertianaria taken from Forestus, although attended with peculiar symptoms, belongs to one of his preceding species.

II. ONEIRODYNIA ACTIVA is the *Somnambulismus* of Sauvage, which he considers as a genus and divides into two species.

1. *Somnambulismus vulgaris*.

In this the patients may be awaked. It admits, however, of a distinction, for some never leave their beds, but bawl and talk, and by their gestures seem to be defending themselves from thieves. Others leap from their beds, put on their clothes, kindle a light, seek for the key, unlock the door, wander far from home, avoid opposing obstacles, pass over narrow bridges, or, by swimming across the streams, return to the house, undress and go to bed again, unconscious of all that passed.

2. *Somnambulismus catalepticus*.

Of this species, wherein active night mare is combined with catalepsy, several instances have been recorded. Among these, Sauvage relates the case of a married woman, who was committed to his care. This lady at the time of menstruation, being insulted by a peasant, suddenly lost her senses and walked about muttering, talking and discovering by gestures the resentment of her mind. When the surgeon entered the room, she flew at him in a rage, but soon after was engaged in pursuing her shadow on the wall: yet she neither saw nor heard her husband, when he spoke to her, nor gave any signs of feeling, although punctured with a pin. During the paroxysm her fingers, hands, and arms, retained the positions in which they were placed by the observers. These fits

fits frequently returned for many months, whenever her mind was in the least disturbed, and lasted commonly from half an hour to an hour. They were at last relieved by change of scene, amusements, and constant exercise.

SECTION II.

Of the Causes Remote and Proximate of Oneirodynia Gravans.

The predisponent cause is, beyond a doubt, debility, for not the robust, not men of a rigid fibre, but the relaxed and irritable, are most liable to these complaints.

The occasional causes may be,

1. Indigested sordes in the stomach, more especially if the person sleeps upon his back. 2. Ebriety, whether from opium or fermented liquors. 3. Viscid mucus. 4. Worms. 5. Obstructed catamenia. 6. Heat with unusual weight of clothes. 7. Hydrocephalus internus. 8. Mental irritation arising from anger, terror, and disgust, or from any other passion excited in the day, and recurring to the imagination during the time of sleep.

For the proximate cause, Hoffman assigns stagnation of blood in the vessels of the lungs during sleep, and with this the Pathology of Etmuller substantially agrees, for he attributes *incubus* to defective respiration, whether arising from distention of the stomach, which prevents the free descent of the diaphragm, or from an affection either paralytic or sympathetic, and spasmodic of the nerves, which serve for respiration.

To me, agreeable to this opinion of Etmuller, it appears that the proximate cause of *oneirodynia gravans* is spasmodic constriction of the lungs, induced by some irritation in the system. Hence the tremor with the sense of lassitude. Hence also the violent and rapid vibration of the diaphragm, all which remain for some time, after every other symptom has ceased with sleep.

Some practitioners imagine, that a loaded and distended stomach, pressing on the aorta in its descent, sends the blood too copiously to the head; but Dr. Whytt was

was clearly of opinion, that it originated in nervous irritation, and his doctrine is confirmed by a consideration both of the occasional causes and of the persons most liable to this complaint. This subject however will be resumed when I come to treat of mania.

Before we attempt to investigate the cause of *oneirodynia activa*, or even hazard a conjecture, it will be proper to examine the brain, and to ascertain, if possible, the proximate cause of sleep and dreams.

SECTION III.

Of the Brain.

This wonderful compages; this source of sympathy and bond of union to the whole machine; this centre of sensation, thought, volition; this repository of consciousness and support of memory; this field, in which imagination ranges unrestrained; this sanctuary of hope and fear; this residence of reason; this microcosm; this mansion of an immortal spirit; demands particular attention.

We observe it placed in the most elevated region of the body, as in a citadel, defended by the arms and covered with abundant caution, by a vast variety of tunics. Externally we see a garment of hair; under this a thick tough skin, with a subjacent membrane; and then arrive at the cranium, which answers the purpose of a wall. Within we find the brain invested by its meninges, the dura and the pia mater, with the tunica arachnoides interposed between them. Thus protected, it is preserved, not only from wounds and bruises, but, which is of the last importance, from external pressure.

The brain is the part first formed, and that from which the heart and arteries, the stomach, the absorbents, the muscles, and the bones originate. Some accurate observers with Malphigi, have distinctly traced this progress in the incubated egg. For in this, when not impregnated, they discerned only the shell, the membranes, the albumen, and the yolk, with a little empty sack: but when impregnated, this sack evidently contained a speck,

so minute indeed as to escape the eye, yet visible by the aid of a powerful lens. After some hours of incubation, with the heat at 98° of Fahrenheit, the speck became, as in the first rudiments of all animals, a vermicle, and they remarked a head and tail, which are the brain with its appendage the spinal marrow. The heart next appeared, at first only as a vibrating arch, but by degrees it assumed auricles and ventricles. After this the lungs and viscera with the limbs began to take their proper form, and the perfect chick appeared.

Thus precisely is it, at least as supposed by Boerhaave, Hervey, and Aquapendente, in the human species ;—in which the brain lays the foundation for the arterial system, for the viscera, for the muscles, and even for the bones, all deriving their origin from it, as the root, the trunk, the branches, and the leaves, in plants spring from the little corculum of their seeds.

How beautiful in this view of the subject are the pious breathings of the royal prophet ! "I will praise thee, for I am fearfully and wonderfully made. My substance was not hid from thee, when I was made in secret and curiously wrought in the lowest parts of the earth. Thine eyes did see my substance, yet being imperfect, and in thy book were all my members written, which in succession were formed, when as yet there was none of them." Psalm cxxxix.

When we have removed the coverings of the brain, we observe in the cerebrum two hemispheres curiously divided into lobes, with deep and multiplied circumvolutions, by which mechanism, the cortical part, every where covered by the pia mater, is much increased.

This is cineritious in its appearance and vascular in its texture ; but the medullary part is white, fibrous, and somewhat harder than the cortical, from whose ultimate arterial branches it is derived. A continuation of the medullary fibres forms the nerves.

It is now universally agreed, that the cortical substance is not glandular, and indeed where a constant and regular supply of a secreted fluid without interruption is required, the glandular mechanism with its reservoirs would

would be improper. That in this case to have a perfect intermission of the influx would be dangerous in the extreme, is evident, because no sooner is there a deficiency of arterial blood in the encephalon, than *syncope* ensues, which is instantly relieved when the vital stream returns.

We can readily assign the reason why it was needful, that the cortical substance should have a great extent of surface, for by this contrivance it is able to contain the numerous orders of secreting vessels, from the smallest which are discernible to those which are invisible, and which terminate in the nervous tubuli of the medulla.

The cerebellum, seated in the inferior and posterior part of the head, is divided into two lobes; but it has not such circumvolutions as appear in the cerebrum. In this, as well as in the brain, the cortical part abounds, but the separation between the cortical and the medullary substance is not so well defined, for the *latter* takes a ramifying course, and is thence denominated *arbor vitæ*.

From the medullary substance both of the brain and of the cerebellum is derived the medulla oblongata, and from this originate both the spinal marrow and the nerves, which either supply the organs of sensation or attend the moving fibres.

The brain is supplied with blood by the carotid and vertebral arteries, the former derived immediately from the aorta, the latter rising up from the subclavians. These are well protected in their ascent towards the head, and, as they enter the cranium, are inflected in curious arches to restrain the impetus of their contained fluids, which might be otherwise injurious to the tender substance of the brain. The carotids are diffused over the cerebrum; and the vertebral arteries convey the vital stream more immediately to the cerebellum. Yet these communicate by innumerable branches, so as to form a wonderful contexture of inosculating arteries, which contribute to impede the rapid progress of the blood, whilst at the same time they effectually prevent stagnation and distention. These arteries deposit their strong muscular integuments, before they enter the cranium. When they have entered, losing a second coat, they have no pulastion,

tion, and therefore resemble veins, only they are destitute of valves. Under this form they constitute the most extensive contexture of the pia mater, and from thence pass by innumerable and infinitely small ramifications into the cortex both of the cerebrum and of the cerebellum.

In the dura mater, the arteries are of a different construction, for they retain their coats, and have strong pulsations. They seem to have no communication with the cortical part either of the brain or of the cerebellum, for the dura mater and the pia mater appear to be perfectly distinct and separated by the cellular membrane, known by the name of tunica arachnoides, which contains a roscid lymph.

From the carotid and vertebral arteries, the two lateral ventricles derive branches to supply with blood their plexus choroides, which is a wonderful reticular membrane, consisting of arteries, veins, and, as Dr. Ridley reports, lymphatics.

The veins scarcely penetrate the medullary substance of the brain, but turn back, and from the cortex hasten to discharge their blood into the sinuses of the dura mater, which, running along the inner surface of the bones, and defended by a thick dense membrane, are preserved not merely from rupture, but from distention, which is likewise prevented by strong filaments stretched across them. It is thus sufficiently provided, that the veins shall not cause compression; but lest they should be themselves compressed, the consequence of which would be stagnation, and a fatal apoplexy, they neither in any part of the brain attend the arteries, nor do they enter by the same foramina.

That a constant supply of blood, circulating through the vessels of the brain, is needful for the purposes of life, was early noticed by physiologists, who called the carotids by that name, from καρος, sleep, because Erasistratus observed that when ligatures are fastened on these arteries, the animal becomes lethargic. Drelincourt, who tried his experiments on dogs, assures us, that he made them apoplectic at his pleasure.

As

As this effect may arise from deficiency of blood; so a redundance, causing distention of the vessels and pressure on the brain, produces the same apoplectic symptoms. Hence Pyerus, having tied up one of the jugular veins in a dog, observed that the animal was become stupid and lethargic.

That plethora in this case acts by compression, will be demonstrated when I come to treat of hydrorachitis, and is evident by a similar effect having been produced on the Parisian beggar mentioned by every anatomical professor. This man, to excite compassion, and for a trifling recompense, submitted to pressure on the brain, having a portion of the skull bare. In consequence of this, he first perceived innumerable sparks, then lost his sight and fell into deep apoplectic sleep, all which symptoms gradually vanished when the pressure was removed. To avoid the hazard of needless and uncertain pressure, it was provided that the brain should have no muscular fibres, and that in the cranium there should be no reservoir of fat.

In the brain we remark four ventricles; two anterior, which are the largest; a third formed by the thalami of the optic nerves, and the crura of the medulla oblongata; and the fourth between the crura of the cerebellum and medulla oblongata. When these are empty, they collapse and leave no vacant space.

With regard to the benefits resulting from different proportions between the cerebrum and the cerebellum, Boerhaave has remarked, that wisdom and sagacity depend upon the former, whilst strength is universally derived from the latter; and it has been observed by others, that in proportion as animals approach to vegetables the brain diminishes, whilst the cerebellum is proportionably increased.

The cerebellum is carefully protected from every kind of pressure, particularly from that of the superincumbent brain, and has neither sinus, ventricle, nor pulsatile artery.

It is remarkable, that when the brain is extirpated, the vital, although not the voluntary, motions are continued; but no sooner is the cerebellum injured, than the vibration

vibration of the heart is stopt, and respiration ceases. Drelincourt, who made numerous experiments on dogs, discovered, that when he had deprived them of their brain, they lived indeed, but like vegetables, without sense or motion.

Such is the wonderful machine, to which, as both Hoffman and Boerhaave state it, one third of the blood, chyle, and lymph, is sent fresh from the fountain, that is, when it has recently received a supply of oxygen in its passage through the lungs.

But for what purpose is this abundant treasure sent into the brain? Not merely for nutrition, but chiefly for secretion. The heart has commonly two small arteries, the liver only one, whilst the brain receives blood from four, and those considerable. That the nerves derive a fluid from the brain is rendered probable, by the experiment of Hoffman, which Dr Monro repeated, who having tied up the phrenic nerves, observed that the diaphragm no longer moved: yet, when these nerves were pressed below the ligatures, some palpitation of the diaphragm returned. The nerve commonly examined is the left phrenic, as being most favourable for experiments, because it is longer than the right, and gives no filaments till it arrives at the diaphragm. On opening the chest, it is seen passing down the side in the form of a white thread.

From all that has been said, it may fairly be conjectured, that the nerves and fibres of the brain are pervious, although, from their extreme tenuity, no one, except Lewenhcuk, was ever able to affirm that he had occular demonstration of the fact. Nor should this be matter of surprise, when we consider that no eye has yet discovered hollow tubes in the peduncles, through which fruits are fed, as in the gourds of Spain, weighing from sixty to one hundred pounds, although it is certain that in this manner nutriment is conveyed to them. It is computed that the smallest nervous filaments are no bigger than the hundredth part of an hair. By what means therefore can they be injected, and without injections how can their permeability receive occular demonstration?

In

In various cases of disease a viscid lymph is discovered in the ventricles of the brain, and to this we attribute coma: but, independent of disease, it is notorious, that the longer after death dissection is performed, the greater is the quantity of lymph, for as Sauvage expresses himself,

Nihil vulgatius quam serum in sinubus cerebri reperire, si longo post mortem tempore aperiatur cadaver: quò longius, eò uberius invenietur serum. Tom. ii. p. 630.

It is true, *absorbents* have never been discovered in the brain: yet, as there are undoubtedly exhalants, it is reasonable, both from effects and from analogy, to conclude, that some correspondent vessels to absorb, as in all other cavities, must exist, although from their minuteness they escape the sight. Dr. Cullen supposes that the extremities of the veins may perform this office. It matters not, however, what kind of absorbents are employed by nature, because, whatever they are, they must be subject to the laws of irritability, and liable both to the accumulation and exhaustion of their vital energy.

Hoffman, in his treatise on the nervous fluid, delivers an opinion, derived, as I imagine, either from Baglivi or Pachioni, which, although not adopted by subsequent professors, yet, as coming from such an eminent physiologist, cannot pass without our notice. According to him the *dura mater* has its systole and diastole, its dilation and contraction, by which the refluent blood, returning through the veins from the arteries of the pia mater, and received into its sinuses, is assisted in its progress to the heart, whilst the secretion and motion of the nervous fluid is increased by the same contrivance. In confirmation of his system, he considers the mechanism of the dura mater, and particularly notices the structure and direction of its membranaceous and nervous fibres. Hence he concludes, that the dura mater is not merely a covering of the brain, but that it serves the purpose of secreting and propelling the nervous fluid to the most distant movements of the animated fabric. In proportion therefore to the strength, tone, stricture, laxity, or atony, of this elastic membrane, the nervous fluid moves with greater

greater or less celerity, and from hence arise the peculiar affections of motion and sensation observable in different constitutions. If this membrane labours under atony, the blood moves more slowly, whence a viscid lymph is separated in greater abundance, and comatose diseases are induced. If the dura mater is spasmodically affected, and that for any length of time; the arteries, veins, and medullary substance, are compressed; circulation ceases; the senses, internal as well as external, are abolished; and apoplexy follows, which may be either slight or fatal, according as either blood, by rupture of the vessels, or serum, by exudation, is poured forth.—If the dura mater is, with celerity and force, alternately constricted and relaxed; the motion of the blood is quickened; secretion is augmented, and the nervous fluid, propelled with violence, produces epilepsy.

Such is the system of this accurate observer; yet Boerhaave, not less attentive to nature, nor less diligent in his anatomical researches, differs from him in opinion, and conceives the nervous fluid to be protruded merely by the action of the heart and arteries. In order to solve the difficulty, why under this supposition sensations have not their pulsations, according as the nervous fluid is accelerated or retarded by the action of the heart; he ingeniously remarks, that the first impression is not lost before it is succeeded by a second and a third. This observation might have been illustrated by the whirling of a firebrand, which exhibits light in one continued circle.

SECTION IV.

Of Sleep.

The end and design of sleep is both to renew, during the silence and darkness of the night, the vital energy, which has been exhausted through the day, and to assist nutrition.

Among the exhausting powers may be reckoned heat, light, motion, sound, and thought, with the exercise of reason, imagination, desire, and volition. And if to these we add sensations, accompanied by pain or pleasure, we shall complete our catalogue.

When

When therefore we are, to a certain degree, exhausted by these powers, we are taught by nature to retire, that, recumbent in some sequestered spot, unmolested by light, by heat, by noise, and free from the excitements of volition, sleep may quietly steal upon our senses and close the avenue to thought. In this situation all the muscles, excepting the sphincters, are relaxed, and voluntary motion ceases, but not the vital and involuntary, for these, far from exhausting, serve only to recruit our strength. Such is the peristaltic motion of the alimentary canal, on which depends nutrition; such respiration, which supplies the pabulum of life; and such the motion of the heart, which distributes the energetic principle to every part of the animated frame.

When all stimulating powers, excepting those which immediately excite the vital functions, are removed, sleep first takes possession of the limbs and blunts sensation; then impairs the recollection with the reasoning power, and finally precludes volition. If profound, it puts a total stop to all the imaginations of the mind.

Such are the phænomena of sleep. But how is it produced? What is the proximate, what the remote cause of sleep?

I am inclined to think that there are absorbents in the cavities of the brain, as in all other cavities of the body, to take up and carry off what the exhalants have deposited, and I imagine that, during our waking hours, their activity is great in proportion to the intensity of thought, of volition, and of muscular exertion. Should this be granted; it will follow, from the laws of the animated fibre, that these absorbents, exhausted by incessant action, will become torpid in a degree, whilst the exhalants continue to pour forth into the ventricles of the brain their viscid lymph, as happens even after death, according to the assertion already quoted from Sauvage.

Hence may arise that degree of pressure on the vessels of the brain which blunts the faculties, produces a cessation of voluntary motion, and terminates in total abscence of sensation.

For the occasional causes of somnolency we may look

to such as diminish the vital energy and action of the absorbents by excess of stimulus: which may be heat, animal food, spices, spirits, opium, and either violent or long continued exertions, whether mental or muscular. Among these we find the same causes which occasion drunkenness in its several degrees of intensity, with deep sleep and death.

Or, the occasional causes, diminishing the vital energy, may be directly sedative, such as excess of cold, which is attended by insuperable desire to sleep; fear, when extreme; profuse evacuations; exhausting diseases; and whatever either diminishes the supply of blood to the vessels of the brain, such as ligatures on the carotids, and pressure on the cortical substance of the brain by plethora, or impedes the return of blood by the veins, as happens to decrepit age, and to such as are opprest with fat.

Hoffman, when treating of sleep and wakefulness, remarks, that the tone and vigour of the brain being much diminished, partly by vigilance through the day, and partly by languid circulation of the blood by night, this gives occasion to more copious exhalation of lymph, which stagnates in the vessels of the brain, and impedes the secretion of the nervous fluid. He observes, that whatever retards the circulation of the blood produces sleep, and that sleep itself retards the circulation of the blood; for during sleep the pulse is slow, and the respiration is both deeper and slower than when we are awake.

That during sleep the whole system is relaxed is evident, because every part of the body becomes turgid; and that some of the exhalants act more freely than the absorbents, with which they are connected, is manifested by the pearly drops of sweat standing like dew upon the face of children, or flowing from every pore of hectic patients, in the morning. To this observation it may be added, that children and people of lax habits sleep more than old people or such as are distinguished for rigidity of fibre. That there is some accumulation in the vessels of the brain is rendered probable by observing, that when any one is suddenly awakened from profound sleep, he is convulsed; weight and torpor in the head

head are felt for some considerable time ; the senses are slow in their return, and the muscles do not readily obey volition. These symptoms are frequently rendered more remarkable when weakly subjects sleep after a full meal before the fire.

During quiescence the absorbents, having accumulated vital energy, act with renovated vigour, and a disposition to wakefulness ensues.

Thus this wonderful machine, by its alternate accumulation and exhaustion of energetic power, seems to resemble, in simplicity of action and contrivance, the syphon fountain, or an engine kept in motion by the alternate collection and condensation of the steam.

In support of this theory the student may consult what I have delivered respecting the proximate cause of serous apoplexy. One degree of pressure produces, as I imagine, drowsiness, and a greater brings on sleep in its several stages of intensity, from that which is lightest, to lethargy, apoplexy, death.

If any one retires to a sequestered spot, undisturbed by light, by noise, by pain, or mental passions, when every muscle is quiescent, and when volition ceases ; when there is nothing to excite the system ; his state of somnolency will be prolonged, attended first by sound and refreshing sleep, afterwards by dozing. Boerhaave relates the case of a wealthy young nobleman in Holland, who, having overdrank himself, was, by orders from the prince of Orange, carried into a dark and quiet place, where he slept three days and as many nights, not incessantly, for he awoke often, but whenever he opened his eyes, believing it to be the middle of the night, he turned round and dozed again.

From what has been said, it should appear, that sleep may arise from either exhausted energy or want of excitement in the absorbent system.

Many animals, secluded from light, heat, and the free access of atmospheric air, doze through the whole winter. In this case the vital functions are scarcely perceptible, for although the lamp of life is not extinguished, it burns dim ; the animal functions are suspended ; and the

the natural functions are nearly so; for nothing passes either by urine or by stool, little escapes by perspiration, and in the torpid state digestion ceases. In this condition of the animal little oxygen is received into the system by the lungs; no great quantity of hydrogen is consumed in any given time for the purposes of life, and consequently the vital heat is much diminished.

Although I have supposed that sleep may be induced by pressure and accumulation of lymph in the ventricles of the brain; yet we must remark that during sleep the absorbents are certainly at work.—1. In the urinary bladder; for the urine is small in quantity, and high coloured. 2. In the alimentary canal; for the fæces are hardened. 3. In the membrana adiposa; for the fat after long protracted sleep is considerably wasted, and at the end of winter, in the torpid animals, is commonly consumed. 4. In the ventricles of the brain, for were it otherwise, not merely sleep, but apoplexy and death, would be the consequence.

In the torpid and quiescent state the appetite for food is lost, for it usually bears proportion to the quantity of exertion, whether mental or muscular; and as no fresh supply of hydrogen is received into the stomach, the little required to feed the lambent flame is readily derived by absorption from the cells or reservoirs of fat dispersed over the body, and more especially about the loins.

During our time of sleep, when every muscular fibre is relaxed, and when nutritive particles are distributed wherever they are wanted; provision of oil is made for the consumption of the waking hours. Hence animals, who eat and sleep immoderately, are apt to be oppressed with fat.

Somnolence, too much indulged, brings on fatuity. Boerhaave relates the case of a physician, who took such delight in sleeping, that he retired to a quiet and sequestered chamber, where, in perfect darkness, he slumbered almost incessantly, till he lost his intellects, and perished in an hospital.

The duration of sleep, with the alternate periods of repose and vigilance, depend much on habit; and this once acquired is with difficulty changed.

SECTION

SECTION V.

Of Vigilance.

VIGILANCE, when attended by anxiety, pain in the head, loss of appetite, and diminution of strength, is by Sauvage and Sagar considered as a genus, and is called *agrypnia*. They have classed it under the VESANIÆ, immediately after their *deliria;* and of this genus Sauvage enumerates eleven species.

1. *Agrypnia arthritica*, arising from retrocedent or atonic gout.

2. *Pathematis*, induced by passions of the mind, such as anger, fear, and strong desire.

3. *Hysterica*, attended by palpitations, starting, subsultus tendinum, impeded respiration, spasmodic contraction, and convulsive motions, at the instant when sleep is stealing on the senses.

4. *Cephalalgica*, attended by violent headach, induced by inflammation in the pia mater.

5. *Ex pancreate*, arising from an abscess in the pancreas, and attended by cold sweats with syncope.

6. *A dolore*, induced by grief, and therefore coinciding with his second species.

7. *Ab indigestione.* 8. *A. febrilis.* 9. *A. senilis.*

10. *Critica*, preceding epistaxis and other critical discharges.

11. *Ab insectis*, such as bugs, lice, fleas, gnats, ants, &c.

In treating of this subject I shall, without following step by step the pacific arrangement of Sauvage, consider what are the remote causes, and then venture to suggest what may be the proximate cause of vigilance.

The occasional causes are evidently such as stimulate the system.

1. The stimuli may be purely mental, such as anger, fear, joy, grief, with intensity of thought and *volition.*

I was acquainted thirty years ago with a most amiable lady, Mrs. Mitchell, of Glasgow; who having the misfortune to lose a husband, by whom she was tenderly beloved, never slept a moment for six weeks: and Sauvage

vage makes mention of a young lady at Montpellier, who having seen her husband murdered by assassins, was deprived of sleep for more than three months.

2. The stimuli may be material, including such changes in the body as excite *sensation*. These are hunger and thirst, strong light, loud sounds, offensive smells, disgusting taste, hard touch, if these are unusual, or such as commonly call forth *volition*, for none of these produce watchfulness, when the mind has been accustomed to regard them with indifference.

The most powerful stimulus is *pain*, because by this the animal is warned of immediate danger, whether the uneasy sensation arises from spasm, distention, laceration, or any solution of continuity produced either mechanically or by chemical attraction. When pain has been for any length of time endured, it proves, like all other stimulants, a powerful sedative.

3. The stimuli, if not so powerful as to excite *sensation* or *volition*, may yet produce *irritation*, as I have explained at large in the sections of irritability and stimulants.

The irritation may be,

a. In the lungs ; as in cases of asthma and catarrh.

b. In the stomach ; arising from indigested sordes, viscid mucus, worms. Hoffman says, Ventriculo bene habente, totum corpus alacrius est, somnus fit placidus, si vero onustus est alimentis incongruis, somnus deficit vel insomniis terrificis interturbatur.

c. In the bowels ; from bile and flatulence, from fæces in the rectum.

d. In the urinary bladder. *e.* In the seminal vessels.

f. In the brain, or its meninges, either arising from or attended by a quickened circulation of the blood, for whatever accelerates the motion of the circulating fluids in the vessels of the brain, induces vigilance.

Thus far all is clear ; but as we advance we shall find ourselves in the regions of doubt, of darkness, of conjecture.

How

How then shall we account for vigilance? Borrowing a ray of light from chemistry, shall we venture to suppose it may arise from the uninterrupted supply of oxygen and hydrogen to the vessels of the brain?

If we suppose sleep to be produced by the pressure of roscid lymph in the ventricles of the brain, and particularly, as I may now proceed to state it, by pressure on the plexus choroides and the minuter or secreting vessels of the brain; may we not indulge our imagination, and conjecture, that vigilance is produced by the union of oxygen and hydrogen, the latter perhaps secreted by some of the vessels of the brain, the former derived by chemical attraction from the arterial blood of the plexus choroides? We know that by vigilance and thought, as well as by motion in the system, whether vital or voluntary, both oxygen and hydrogen are consumed and lost, whilst heat and water are produced; and it is now understood that the chemical union of those principles generates water and disengages heat.

Let the student recollect, that in the ventricles of the brain, he finds no coagulable lymph, but the purest water which is therefore denominated roscid lymph by Boerhaave.

I have already stated, that the absorbents recover their tone merely by quiescence; but supposing the stimuli above stated are applied to any part of the system; the absorbents, agreeable to the laws of the animal economy, will be excited by sympathy, for it is observed, that irritation draws into consent the nearest exhalants and the remote absorbents. The fact is certain, and the wisdom of this economy will be obvious to the student, if he recollects what has been delivered on the efforts of nature to relieve herself.

In support of these theoretical conjectures I would suggest the subsequent considerations.

1. A superabundant supply of hydrogen from fermented liquors received into the stomach, at first brightens all the faculties and gives increase of vigour, but speedily brings on intoxication followed by apoplectic sleep: but the inspiration of oxygenated air, as my friend Dr. Thornton

THORNTON has clearly proved, stops the progress of intoxication, and therefore prevents apoplectic sleep.

2. We observe in crowded rooms, when candles burn dim for want of air, the human understanding is confused, and all its powers are enfeebled; but the imagination kindles, when the lungs take in a fresh supply of well oxygenated air.

3. The inspiration of foul air in mines, whether hydrogenous, carbonic, or the two combined, brings on deep sleep and death; but by the admission of uncontaminated air the miners are speedily revived, and the same happens frequently in Spain to those who sit too long, or sleep in a close room with burning charcoal, which consumes the oxygen and discharges carbonic air.

4. Boerhaave has remarked, that in acute diseases, the blood is found chiefly in the arteries, while the veins are comparatively empty. For this phænomenon he in vain endeavours to account; but the cause is evidently this: the blood in all inflammatory fevers, being highly oxygenated, strongly stimulates the heart, and is therefore propelled into the arteries in great abundance, and quicker than the veins can receive it.

But when highly oxygenated blood, as in acute diseases, such as synocha, pleuritis, phrenitis, moves with rapidity through the system, and therefore in the vessels of the brain, vigilance, particularly in young subjects, sometimes continues night and day for a whole week together. In such circumstances, as Boerhaave, with his usual accuracy of discernment, well observed, their body has been rendered lighter by one third part of its weight, so that those, who had been very fat, have been reduced almost to skeletons. See his lectures on the theory of physic, sections 599, 600.

In such circumstances, whilst the fever rages, the patient can rise up with ease and support himself in bed: but when the fever is exhausted, weak and relaxed, he sleeps incessantly, or only awakes to take in more food, that is, to supply the lamp of life with hydrogen, then sleeps again. My friend Dr. *Thornton* informs me, that when he exhibits oxygenated air to thin people, it increases

creases their appetite for food ; but that when fat people inspire it, they eat less, grow thinner, and yet find no deficiency of strength. Many instances have been recorded, and the judicious author of MEDICAL EXTRACTS has been at the trouble of collecting several, where persons, overcharged with hydrogen, as in the case of *drunkards*, have been consumed by *spontaneous combustion*, when heat, sufficient for that purpose, was disengaged by the chemical union of *oxygen* with the *hydrogen*.

The process of *combustion* being little understood, unless by modern chemists, I shall explain it in the burning of a wax candle. You kindle twisted threads of cotton and thereby melt the wax. This being fluid is by capillary attraction drawn up into the wick, and ascends into the part which is in flame, from whence it rises in the form of gas, and in that state, combining readily with the oxygen of the atmospheric air, composes aqueous vapour, which may be condensed and rendered visible on the polished surface of cold metal, and sets at liberty both light and heat. Dr. THORNTON shewed me a very elegant process of combustion, by putting one drop of ether into a two ounce phial of oxygenated air, which he then kindled with a match. The combination was instantaneous ; water was produced ; and the light and heat were not inferior to those which are disengaged from detonating gold.

It is allowed that the blood, in its return towards the heart, has lost the oxygen which it had acquired in the lungs. What then is become of it ? Surely it is not annihilated. The quantity derived from the air merely by breathing is considerable ; but the same physician, to whose experiments I have so frequently referred, and whose ardour in the pursuit of science merits our applause, assures me, that the cuticular absorbents have the same power and perform the same office with the lungs.

It is well known that *mental* as well as *muscular* exertion, consumes the fat, and it is well ascertained that whenever there is any combination in the system, heat is generated : it is likewise proved by the experiments of

Dr. Priestly, that oxygen will pass through the pores of membranes to unite with hydrogen.

Since then we have lost oxygen and hydrogen in great abundance, and acquired both heat and water; is it not probable, that the oxygen, which disappeared, has formed a chemical union with hydrogen and produced the water, whilst at the same time heat has been evolved. The water thus continually formed is either taken up incessantly by the lymphatics, and conveyed back to the mass of circulating fluids, or passes out of the system by the exhalant arteries.

Were it my present intention to treat of muscular motion, I should enlarge on the curious texture of the cellular membrane, with which every, even the most minute, fasciculus of muscular fibres is inclosed; but I must leave this for the physiologist, and hasten to a conclusion of this section.

Whatever then becomes of my conjectures respecting the proximate cause of vigilance, it stands confessed, that the occasional causes are such as stimulate the system, and that, from common watchfulness to furious raving, it bears proportion to the degree of excitement in the brain.

SECTION VI.

On Dreaming.

Dreaming is the intermediate state between vigilance and sleep.

It takes place usually towards the morning, and may be at any time excited by irritation in the system.

It is the imperfect exercise of *mem ry*, and the impression may be either indifferent, or attended with joy, grief, hope, fear, desire, and volition.

The intensity of these affections depends on the degree of excitement in the brain; and this again will be in proportion to the irritability of the system and to the energy of the exciting cause, which cause may be either mental or material.

1. If during the day we have seen any thing uncommonly

monly striking, although not in the least interesting, as producing neither pain, pleasure, hope, nor fear; the image will, unless we sleep profoundly, be renewed by night. *Spinosa* relates of himself, that from the time in which he first saw Brazilians seven feet high with long yellow hair, it made so strong an impression, that he had always the same image in his dreams, and could with difficulty free himself from it during the day.

2. The oftener this image is renewed, the more readily will it be excited in the mind; and by frequency of recurrence a regular habit will be established.

3. When the passions of joy, sorrow, hope, desire, fear, and terror, have been strongly excited in the day, the attendant images will present themselves in dreams by night. The lady of Montpellier, already mentioned, no sooner closed her eyes to sleep, than the image of her murdered husband, and the assassins sprinkled with his blood, were in the most vivid forms represented to her view.

4. Whatever image is by dreaming presented to the mind, is apt to associate others, between which and it there is either natural or accidental connection. Thus if a man dreams that he has been guilty of a crime, his imagination will represent constables pursuing, the judge pronouncing sentence, and the executioner fixing the halter on his neck.

There is a curious experiment, which shews a propensity in the system to renew whatever images have made a vivid impression on the sight.

If when the sun shines bright, you look through a window at a landscape, fixing your eyes steadily on one spot, till vision is distressing, and till the view begins to fade, then gently close your eyelids and put a hat before your face; the representation will alternately appear and vanish, and what is still more remarkable, the image of the window bars and of the nearest trees will be dark, whilst the sky appears to be either purple or light green: but whenever the hat is removed, and light is transmitted through the eyelids, the bars of the window and the trees become red like fire edged with green, and the sky is dark.

dark. Even when the eyes have been for some time opened and engaged with other objects, on being closed again, all these appearances will be renewed.

The student, I trust, collecting what has been delivered on the accumulation of irritability, will readily comprehend why the darkest objects become the brightest, when light is transmitted by the eyelids. But what I have principally in view is, to shew the recurrence of images, whilst the eyelids are closed, and the attention is not diverted by the more powerful sensations.

When debility and irritability prevail in the extreme, the most trifling irritation will be sufficient to produce the recurrence of images, passions, sensations, and association of ideas; but in the more torpid it requires some powerful stimulus; and this may be either in the stomach or the brain itself.

The stomach is commonly the part in which we may seek the occasional cause of dreams; but whatever induces determination to the head, or quickens the circulation in the vessels of the brain, without producing vigilance, will have the same effect. Dr. Lower gives the case of one who slept soundly whilst his head was inclined forward, yet when his head fell back he was soon awakened with horrid dreams and tremors.

In this patient, after death, water was discovered in the ventricles of the brain.

SECTION VII.

Of the Causes Remote and Proximate of Oneirodynia Activa.

It may be sufficient to observe, that the predisponent cause, as in oneirodynia gravans, is certainly debility, because, not the robust and persons of a rigid fibre, but the delicate, and such as are most irritable, are most liable to this complaint.

The occasional causes may be, as in *oneirodynia gravans*, indigested sordes, viscid mucus, worms, ebriety, and the abuse of laudanum.

As to the proximate cause, nothing certain can be delivered, but I confess myself much inclined to think with Dr.

Dr. Cullen, that the brain is liable to partial excitements, and that in this affection, as in delirium, we need look no farther for the cause. Every faculty seems to be awake, excepting *consciousness*, for the person walking in his sleep, with his eyes open, turns aside to avoid obstacles, and unerringly directs his steps, as if he were awake; yet when consciousness returns, he has no recollection of what he did or where he went.

Something similar to this may happen to those who are perfectly awake, but deeply engaged in thought.

I remember formerly having seen a clergyman, much attached to mathematical studies, to whom it frequently happened, even when he was engaged in the solemn service of the church, that having his attention wholly occupied in his favourite pursuits, he did not from the beginning to the end retain the least consciousness of what he was about, and yet he never made mistakes. Had any one recalled his consciousness in the middle of prayers, he would certainly have been confused, and would perhaps have been unable to proceed.

In cases of oneirodynia activa, either strong light, loud sound, or a bason of water dashed in the face, awakens consciousness, yet with manifest hazard to the health and understanding of the patient.

SECTION VIII.

Of the Indications of Cure in Cases of Oneirodynia.

The indications must be taken from the remote causes:

The occasional causes require particular attention. These are to be carefully avoided. Strict temperance is to be enjoined: viscid mucus requires emetics: and worms must be destroyed by anthelmintics.

The predisponent cause calls for tonics and astringents.

Nothing can be more judicious than the curative intention of Etmuller.

In his *incubus accidentalis*, he orders emetics, and forbids eating much at supper.

In his *incubus habitualis*, he recommends the same treatment as for hypochondriasis, that is, emetics, volatile sudorifics,

dorifics, gentle aloetics, and above all, the martial preparations, to which bark, wine, and opium, as part of the highly tonic regimen, may be sometimes added to advantage.

For an emetic, ipecacuanha, from three to ten grains; with tartarized antimony, from one to three grains, according to the age and irritability of the patient, may be given in the morning fasting.

Gentle cathartics must occasionally follow the emetics, and for this purpose the subsequent pills will be found sufficient.

℞ Pulv. Aloes, cum fero, dr. 1. Calomel, gr. 10.
Tinct. Aloes, q. s. f. pill 20. Cap. pill. j. o. n. h. s.

Should one pill every night be found insufficient to keep the body reasonably open, the quantity must be increased; but as it will be in vain to evacuate the bowels, unless the tone of the system is restored, five grains either of ferrum tartarisatum, of rubigo ferri, or of limatura ferri, in conserve of roses, should be given twice or three times a day. These may sometimes give place to the peruvian bark, or both may be united, as occasion may require.

This treatment will be found equally efficacious in both species of oneirodynia.

Genus LIX. Melancholia.

Melancholy.

The pathognomonic symptom is erroneous judgment, not merely respecting health, arising from imaginary perceptions or recollections, influencing the conduct, distressing the mind with ill-grounded fears, and not combined with either pyrexia or comatose affections.

INTRODUCTION.

Dr. Home considers melancholia and mania as two species of *insania*, and this he defines permanent *delirium* without fever.

Melancholy then, according to him, is insanity accompanied by sadness; *madness* is insanity attended by rage. In the former, *fear* prevails; *anger* in the latter; but in both we have delirium.

SECTION

SECTION I.

Of Delirium.

When treating of fevers I had occasion to distinguish delirium, as occurring either in synocha or in typhus, without however staying to consider the proximate cause of these affections.

It will be needful to resume the subject in this place, to which it more immediately belongs.

Delirium, as defined by Dr. Cullen, is, in a person awake, a false judgment arising from perceptions of imagination, or from false recollections, and commonly producing disproportionate emotions.

Of this he very properly distinguishes two species, considering it either as combined with pyrexia and comatose affections; or as totally free from such a combination. He likewise marks the affinity between delirium and dreams, or rather proves that delirium is a waking dream. Whatever then I have suggested respecting dreams is applicable to delirium.

Dr. Cullen imagines it arises from unequal excitement in the brain, and I see no reason to differ from him in opinion. That he is right in his conjecture is probable, because strong excitement, as by any loud or sudden noise, calls back the recollection, and for a short interval restores the senses. Van Swieten in his comment well remarks, *Si subitanei quid et improvisi ipsis acciderit, pro momento bene respondent; paulo post, deleta hac vivida impressione, relabuntur.* Sect. 700.

In adverting to this subject, we cannot but call to mind the difference between the *delirium* of *synocha* and the *delirium* of *typhus*. In the former we find a pulse full, strong, and vibrating from 90 to 110 strokes in a minute, and the heat much increased. In the latter the pulse is weak, small, and fluttering, with the vibrations almost innumerable. Here is at the same time remarkable prostration of strength, but the heat is moderate.

In the former, substances producing hydrogen, received into the stomach, increase delirium; but acids tend greatly

greatly to diminish it. In the latter, no benefit is derived from acids in the stomach, but whatever most abounds with hydrogen removes the symptoms of debility and restores serenity. In the former to inspire oxygenated air is hurtful: in the latter it is highly beneficial. In the former all is in a blaze: in the latter the lamp of life, for want of pabulum, is well nigh extinguished, and the vital energy is so far exhausted, that, for a considerable time before the dissolution, the iris ceases to contract by the stimulus of light.

Of this distinction every practitioner is sufficiently aware; but it is far from being universally understood, that *delirium* may be occasioned by viscid mucus, and corrupted bile in the first passages. Van Swieten ingenuously confesses, that he is indebted for this information to his master Boerhaave, and adds, *Monitus ab optimo præceptore, frequentem satis* DELIRII *in febribus causam esse sordes circa præcordia collectas; postea attentus huic rei, vidi sæpius hoc verissimum esse; et unico vomitorio dato, excusâ hac saburrâ recordor plures ilicò resipuisse*, sect. 701. And Dr. Whytt, who studied in the same school, relates the case of a delirium in a boy, who slept well, had a sharp appetite, was not costive, and whose pulse was full and slow. This boy, after having been bled and blistered to no purpose, was cured by calomel and rhubarb, which brought away a great quantity of slime.

I remember a patient, attended by my much lamented friend and fellow student, Dr. Stack, of Bath, who for a length of time was delirious every night, and conceiting, from pain in his bowels, that he was devoured by dogs, thrashed with his cane every one who approached him, or in their absence beat the bed posts to drive away the furious animals. In this case, when other remedies had failed, his symptoms were relieved by evacuants producing a discharge of viscid mucus and of bile.

Thus we may distinguish three species of *dilirium*, as it is found either in the sanguine temperament or in the melancholic, because the former may have either the robust and elastic fibre, which is essential to strength, or the lax and irritable fibre, which accompanies debility.

This

This distinction is important, as having a reference to practice.

Delirium may indeed be occasioned by mental irritation: yet such is the connexion and consent between the mind and body, that what originates altogether in the former is soon communicated to the latter, and then action and reaction proceed continually till the disorder is confirmed, and delirium terminates in madness.

To investigate this matter, as far as we are able, we must consider what are the laws of the animal economy.

1. The more vivid the sensation when the image is impressed, the stronger is its disposition to return, and the shorter are the intervals of absence, till by intensity of application the idea becomes permanently fixed. Thus if you look steadily at the sun, so as moderately to fatigue the sight, then retire to a dark room, the image of the sun will alternately vanish and appear for a considerable time; but if you continue gazing for a greater length of time, the image will remain for hours or for days.

2. The more deeply interested we are in any object, that is, the more forcibly it excites either hope or fear, the more frequently will the idea of that object be presented to the mind.

3. Every idea, which has frequently recurred, has a disposition to return, and, by returning often, becomes both permanent and vivid.

4. Whatever ideas have been either usually, or even accidentally, yet powerfully associated, have such a disposition to associate, that any one of these, respecting either hope, fear, time, place, persons, things, or even arbitrary characters, being presented to the mind, excite all the rest either in regular or in confused succession.

5. These ideas commonly return and wanton in the imagination during the silence and darkness of the night, or even by day in the absence of more powerful sensations. In some circumstances closing the eyes may be sufficient to produce them, as the student may recollect in the case of bilious autumnal fever, to which I called his attention in the beginning of this work. Dr. Whytt relates the case of a patient affected with erysipelas, who,

when his eyes were open, was free from confusion in his ideas; but no sooner did he close them, although not asleep, than he thought himself carried swiftly through the air to distant regions, or that his head, arms, and legs, separated from his body, were flying off in different directions.

In these cases the irritation is weaker than the usual sensations conveyed by light, for it vanishes like the glow-worm's feeble glimmering at the rising of the sun.

6. When the image is vivid, and forcibly impressed upon the mind by frequent recurrence, or by rivetted attention, and when the passions of hope or fear have been strongly interested by its presence; it will continue undisturbed by new sensations more permanent than the image of the sun, which Boerhaave had the rashness to receive on his retina from the focus of a convex lens, and which, as he informs us, remained immutable for many days.

7. These ideas, with their associated train, although at first excited by mental irritation, may be renewed by irritation in other parts of the system, precisely as I have stated in the case of dreams.

8. When these ideas are renewed by irritation, whether mental or material, the impression will bear proportion to the debility of the system, and to the strength of the irritating cause: or, this being given, it will be directly as the debility. If therefore delirium supervenes, when debility and irritability do not prevail, we may be certain, that there is some powerful stimulus either on the brain, or in the first passages of the alimentary canal, as will be explained in the fifth section under mania.

9. When images are permanent and vivid, the mind has no criterion by which it can distinguish such as are excited by irritation in the system, from those that correspond with, and are immediately produced by external objects.

SECTION II.

Of the History and Progress of Melancholy.

The persons most liable to this disease are men of the *melancholic*

melancholic temperament, particularly those who from active life retire to solitude, and, without employment for either the body or the mind, overcharge the alimentary canal, more especially if the place of their retreat is low and damp, or if, in such circumstances, they meet with keen vexation, and are harassed with anxiety.

It is likewise the disease of studious and sedentary people, who neglect muscular exercise, whilst they exhaust the powers of the mind. With them, however, it does not usually assume the most hideous features of despair, but is often so mild and gentle in its aspect as to claim affinity with a disease between which and it the resemblance is too striking to escape our notice. In both there is erroneous judgment; but whilst in *hypochondriasis* this has respect to health alone, in *melancholia* it is not thus confined.

When the literary man conceits that he is converted into wax; when with Dr. Watts he imagines that his nose is bigger than his chamber door; or, supposing himself a clock, stands upright in the corner of his room, moves his head from side to side, and clicks to this motion, so as to imitate the sound and vibration of a pendulum, without any other symptom of derangement; we do not hesitate to pronounce him deeply *hypochondriacal*. But when he becomes habitually gloomy, fretful, and suspicious; when his distressing apprehensions are not confined to health, but arise from other sources; more especially if he continues free from dyspepsia; the best physicians are agreed to consider him as attacked by *melancholia*. Yet between these diseases the limits are not in all cases easy to be traced.

The usual progress of melancholy is well described by Boerhaave.

Patients in this disease are pale and bloated; but by degrees they contract a livid hue and grow very thin. They lose their sleep, and commonly their appetite, although many instances are found of astonishing voracity. Respiration and the pulse become weak and slow; the habit costive in the extreme; the whole system torpid. A sullen gloom takes possession of the countenance, anxiety and grief hang heavy on their eyelids, and their imagination

agination is haunted incessantly with fearful apprehensions. The perspiration and all the secretions are diminished, and coldness prevails in the extremities. An obstinate jaundice sometimes supervenes, and when the body is dissected, the gall ducts commonly are found distended with black and stagnant bile, which resembles liquid pitch.

Van Sweiten attended a lady in melancholia, who, after she had often attempted to destroy herself, lay sleepless with her eyes open for six weeks, during which period she scarcely either ate or drank, and never passed a stool. For the first five weeks she made little water, and in the last week none. Her tongue and mouth were dry, and her extremities cold like marble. After death no effusion was discovered on the brain, but the vessels of the pia mater were distended with black and pitch-like blood. See his Comments, sect. 1010.

Forestus mentions an old man who had no stool for three months.

When nature spontaneously effects a cure, it is either by inflammatory gout in the extremities, as mentioned by Dr. Whytt in his treatise on nervous disorders; by the hæmorrhoidal flux, as stated by Hippocrates, and his commentator Galen; by an eruption on the skin, as particularly noticed by the sagacious Boerhaave; by a diarrhœa, as remarked by Dr. Hulme; or by the return of the monthly evacuation, as observed by all who are conversant with this disease.

SECTION III.

Of the Remote Causes of Melancholia, with Cases.

From what has been already delivered, it will appear that the predisponent cause of melancholia is debility, and it will be seen that the occasional causes are such as are directly or indirectly sedative, and therefore tend to debilitate the system. Among the latter may be reckoned violent and long continued and mental exertions, with intensity of thought and protracted vigilance, as in poets and mathematicians. Of these, some, who are of a peculiar

liar constitution, may escape with impunity, although, like *Francis Vieta*, the algebraist mentioned by Boerhaave, they should pass whole days and nights successively in such profound meditation as neither to eat nor drink, nor see, nor hear; yet in general they are the first to suffer.

The same may be said of the intemperate, whether they indulge themselves in gluttony, drunkenness, the use of opiates, or in that species of intemperance which commits greater ravages in the mental faculties then either of the former.

Excessive *heat* with immoderate exercise, when exposed to a scorching sun, as in Italy and Spain, will produce the same effect.

Even *joy* in the extreme, terminates in *melancholy*. It was observed by medical practitioners, A. D. 1720, when the South Sea bubble produced speedy revolutions in the fortunes of the credulous, that by far the greater number of patients were among, not the unsuccessful, but the fortunate adventurers, and such as were suddenly overwhelmed with wealth.

All these causes are directly stimulant, and therefore indirectly sedative.

Others are directly sedative.

Such is *cold* with humidity and stagnant vapour. Such are viscid aliments, which containing little matter fit for nutriment, needlessly oppress the stomach and the bowels.

The same may be said of ill cured agues, which leave corrupted bile and viscid mucus in the alimentary canal.

The most powerful sedatives are *grief*, *anxiety*, and *fear*. This may be seen in disappointed ambition, the ruined gambler, the perplexed by litigations, and such as are crossed in hopeless love, who immure themselves in cloisters, or wander in the solitary shade, the victims of despair.

Terror, which is sudden fear in the extreme, produces not only the most violent, but the most permanent effects. Van Swieten saw a lady, who having been exceedingly alarmed by thieves at night attempting to break into her chamber, never lost that idea for a moment, but was unremittingly afraid, more particularly towards the evening;

evening, when she constantly began to look round with terror, to tremble and turn pale; and although attended by her servants, no sooner had she closed her eyes to sleep, than she started up affrighted, so that she never could procure refreshing sleep. Harassed thus incessantly by fear, she soon became a prey to *melancholy*, and died of that disease.

Fear renders the pulse weak, slow, small; checks the respiration; lessens the vital heat; relaxes the stomach and the bowels; impairs digestion; destroys the appetite; disturbs the rest by frightful dreams; brings on paleness; diminishes perspiration, or covers the face with cold drops of sweat; prevents the due secretion of the bile, and produces universal torpor.

Anxiety and *grief* have the same effects, and although slowly, yet certainly destroy by loss of tone and relaxation of the solids. Professor Hoffman, contrasting the operation of the passions, judiciously observes, that *anger* quickens the circulation, and drives the blood impetuously from the center to the circumference; *terror* with equal force sends it from the surface to the internal parts, the one producing *fever*, the other *spasm*; but *grief* retards the motion of the blood, and tends to atony.

As the stomach sympathizes with every part of the system, and is the first to suffer by any passions of the mind, more especially by grief and fear; so every part of the system, more especially the mind, is drawn into consent and suffers by the affections of the stomach. Van Swieten has well described this action and reaction in the case of melancholy. In *Melancholia dum uni et eidem cogitationi inhæret perpetuo mens, nascitur in corpore humorum cacochymia: contra ubi talis humorum degeneratio ab aliis causis nata fuit, uni et eidem cogitationi inhæret homo etiam invitus et repugnans.* Comment. § 1090.

In spasmodic disorders the connexion between every part of the system and the stomach has been clearly demonstrated; and, whoever has paid attention to melancholic patients, will be satisfied that the seat of this affection is most often in the alimentary canal.

Baglivi,

Baglivi, as quoted by Hoffman, is decidedly of this opinion, and advises medical practitioners in all mental disorders to pay their first attention to the stomach. To this advice the professor adds ; I have frequently observed men, who were before of a cheerful disposition, and of a sanguine temperament, reduced, by distress of mind, to such a state, that, without any manifest and subsisting cause for grief, they have sunk into the deepest *melancholy*, constantly disturbed with apprehensions of impending evil. In these circumstances they complained of flatulence, pain, and distention about the præcordia, want of appetite, and costiveness.

Van Helmont teaches distinctly the same doctrine, and in his quaint manner says, " The archer dwells in the præcordia, and if, in delirium or any species of insanity, he aims his arrows at the head, this should not induce the physician to direct his attention or to apply his remedies immediately to the brain itself ; for this would be to resemble one, who should attack the arrows whilst he overlooks the archer " Van Helmont however is mistaken, when he attributes every species of *delirium* to this cause, for, as we have already stated, it sometimes derives its origin from inflammation and mental irritation. The opinion of Galen therefore, when he says that in some cases delirium and melancholy arise from weakness and relaxation of the stomach, " *consentiente principio quod in cerebro et nervis est*," seems to be more agreeable to truth.

Among the occasional causes of melancholia we have already considered the operation of heat, cold, joy, grief, anxiety, and fear. It remains to enumerate some others, which have been noticed by practitioners.

When atonic gout, as stated by Dr. Whytt, occasions melancholia, the sedative effects are first perceived in the stomach and the bowels. This may be particularly noticed in two cases related by him in his treatise on the nerves, ch. vi. § 17. to which I must refer the student.

The drying up of ulcers stands particularly charged by Amatus Lusitanus, as the occasional cause of melancholy. A case, which occurred to him, has been referred

red to, and other instances of the same nature have been recorded by practitioners. Obstructed catamenia sometimes brings on melancholia, and, according to Hippocrates and Galen, the same effect has been produced when the hæmorrhoidal flux has been unseasonably suppressed: but they and all the disciples of that school principally accuse their *atrabilis*.

SECTION IV.

Of the Proximate Cause of Melancholia.

Professor Hoffman, for the proximate cause of melancholy, assigns stagnation of thick blood in the weak and flaccid vessels of the brain: *Sanguinis crassioris nimius ad imbecille et flaccescens cerebrum appulsus, stagnatio et difficilis progressus.* But although the blood moves slow in this disease, there is no reason to imagine that it either stagnates in the vessels of the brain, or moves slower there, than it does in other parts of the system.

Dr. Cullen, taking no notice of this opinion of his master, seems inclined to attribute melancholia to a preternatural dryness and firmness of texture in some portions of the brain, giving occasion to inequality of excitement. But my valuable friend Gimbernat, first surgeon to the king of Spain, after having dissected more than six hundred heads of wise men, fools, and madmen, assures me, that he never could discover any thing remarkable in either texture or colour to distinguish them. Any preternatural hardness in the texture of the brain must be considered either as accidental, or as the effect, and not the cause, of insanity, for this circumstance will not assist us to account either for its sudden and spontaneous solution, or its cure by medicine, neither could it lead us to any rational indications.

The sagacious Boerhaave, treading in the steps of Hippocrates and Galen, considers *atrabilis* as the cause of *melancholia*, and at the same time states, that *melancholia* is the cause of *atrabilis*. His words are these, *Hic morbus oritur ex illa sanguinis et humorum malignitate, quam* BILEM ATRAM *dixere veteres et rursum idem morbus a*

mente

mente initium ducens, brevi in corpore bene sano ipsam bilem atram facit. Sect. 1090.

From what symptoms then does he conclude that *atrabilis* prevails in this disease?

1. From black substances, evacuated either by the action of emetics, or by stool, and found after death in the intestines.

2. From the black pitch-like substance frequently discovered in the bilious ducts, and sometimes in the spleen.

3. From the colour of the blood, because in melancholia the crassamentum, if covered and preserved from communication with atmospheric or oxygenated air, is of a dark crimson colour bordering upon black.

The first of these substances must be either corrupted bile or extravasated blood.

Fourcroy informs us, that he has sometimes discovered a biliary lining in the small intestines, black, of the consistence of salve, and more than a quarter of an inch in thickness. This, by the action of the absorbents, acquires the toughness and tenacity of glue. See the Memoirs of the Royal Society of Medicine at Paris for the years 1782 and 1783.

The second is certainly corrupted bile inspissated by the action of the absorbents, but by no means answers to the idea of Hyppocrates, who imagined that two species of bile, yellow and black, existed in the healthy body, and that health itself depended on the due admixture of these principles.

That the bile should thus concrete, cannot excite our wonder, when we consider, that it is composed of coagulable lymph, animal gluten, the mineral alkali, and a resinous substance, according to the analysis of Jacquin, and of the best modern chemists.

As to the colour of the blood, it is now put beyond a doubt by the experiments of Dr. Priestley, that blood receives a florid colour from oxygen, and becomes black when deprived of that pabulum of life.

This circumstance may possibly assist us to explain the most interesting symptoms, as stated by Boerhaave, and

with some degree of probability to suggest what may be the proximate cause of melancholia. These symptoms are,

1. *Pulse* slow, small, weak, and the balance of the sanguiferous system on the side of the veins. See Cullen's First Lines, § 1589. This proves that the vital energy of the heart is so much diminished, as not to balance the natural elasticity of the arteries. Hence they contract more forcibly than the heart, and protrude the blood into the veins faster than it can return. The slowness, smallness, and weakness of the pulse seem to be proportioned to the diminution of oxygen. When this fails, pulsation ceases; and the blood being collected wholly in the veins, the arteries are altogether empty.

2. *Respiration* slow. The respiration seems to be governed by the pulse, as I have already had occasion to explain, when stating the consent between the heart and lungs. It certainly bears proportion to the demand for oxygen, as may be seen in dogs, who have consumed more than their usual quantity when in pursuit of game. And I may here be permitted to observe, that in the antelope, who moves with inexpressible velocity, the lungs are capacious, the trachea is two inches wide, and the nostrils are remarkably dilated. Vide Pallas's Voyages. The more pure the air, the slower is the respiration; but in proportion as the air is vitiated, either by substances, which are destitute of oxygen, or by those which greedily combine with it, the more laborious is the respiration. This I have already noticed, and it may be proved by the breathing of some asthmatic patients, who are radically cured by well oxygenated air. Since then the respiration in melancholia is slow, it is evident that the demand in the system for oxygen is small. If more were demanded, more would be supplied, and respiration would be quickened.

3. *Paleness.* This universally is a symptom of debility, and proves that the balance of the sanguiferous system is on the side of the veins, or, in other words, that the vital energy of the heart is much diminished. This may be clearly proved by the paleness of syncope and death.

4. *Perspiration*

4. *Perspiration* and all the *secretions* much diminished. These effects naturally follow the weakened energy of the heart, but they do not altogether depend upon that cause, for the secretions are promoted by oxygen, and suffer loss by its deficiency.

5. *Coldness* of the extremities. That vital heat depends on oxygen, is put beyond a doubt by the experiments of Drs. CRAWFORD and THORNTON, which prove that it bears proportion to the quantity of this received into the lungs. Heat however is not generated merely in the lungs, but throughout the system, wherever there is either muscular motion or animal secretion. The pulsation of the arteries, and the oscillatory motion of the extreme vessels, with the secretions, being, as already stated, all diminished, the vital heat must consequently be diminished to the same degree, and this diminution will be therefore most perceptible in the extremities, where the quantity of blood is least and its circulation slowest.

6. *Digestion* much impaired. This effect seems to arise from the diminution of the vital heat, for by the experiments of JOHN HUNTER on various animals, which sleep through the winter, it appears, that the digestive process is quickened by heat, and checked, or totally suppressed, by cold. But if the student recollects what has been delivered on respiration and digestion, he will be inclined to think that digestion is promoted by the inspiration of oxygen, and impeded by vitiated air received into the lungs. Digestion however is not produced by either heat or oxygen, but by the gastric juice. We have reason therefore to conclude, that for want of oxygen, the gastric juice is either deficient in quantity, as we may be the more inclined to think, when we consider, that all the secretions are diminished, or vitiated in quality, as may be readily conceived, when we reflect, what changes in the whole system are produced by air and heat.

7. *Loss of appetite.* This naturally follows from the deficiency of gastric juice. But when the appetite, instead of being impaired, is exceedingly voracious, this may arise from the stimulus of indigested sordes.

8. *Costiveness.* This likewise may be attributed to want

want of oxygen, for when Dr. THORNTON, as he informs me, made his dispeptic patients breathe super-oxygenated air, they not only acquired appetite and spirits, but became more regular in their bowels. Oxygen increases the secretions in general, and therefore may increase the quantity of bile, which is the natural cathartic of the body, and at the same time, giving tone and vigour to the secreting vessels, it is probable that it may improve the quality of the secreted fluid. But independently of this we may observe, that the perspiration being diminished, the determination is naturally increased to the internal surface, where at the same time, the glands being much relaxed, a superabundant quantity of mucus, of viscid mucus, is collected, so as to separate between the bile and the animated fibre, and thereby prevent the operation of that natural cathartic. It is not however an universal symptom, or constantly present in melancholic patients.

9. *Spirits depressed.* My friend Dr. Thornton, in exhibiting vital air to his numerous patients, constantly observed, that the eye became more animated, and that the countenance brightened with hilarity, which effects we universally experience in a pure atmosphere. If then the spirits are elated by a plentiful supply of oxygen, are we not warranted in our conclusion, that depression of spirits may be caused by its deficiency? Should we enquire how it happens, that the lungs do not derive a proper supply from atmospheric air; I might simply appeal to facts, leaving others to assign the cause and to account for this defect. But I shall rather make the attempt myself, and at the same time remind the student of the hints, which I ventured to throw out in the beginning of my work.

Every process in nature seems to depend on either attraction or repulsion.

Of attraction, we distinguish various kinds; the attraction of gravitation; magnetic attraction; the attraction of electricity; and chemical attraction. But beside these we observe another, which may be called *vital attraction.* On this depends the growth of the living fibre.

Vegetables attract their nutriment both by their leaves and

and by their roots, which in extent are proportioned to each other. Animals go in search of food; but after they have swallowed and the stomach has digested this, the lacteals make their selection, and absorb such parts as are best suited to nutrition. In them the absorbents of the alimentary canal, at the different periods of their growth, and the pulmonary air vessels, bear proportion to each other, and I have already stated a relative proportion between the oxygen attracted by the lungs, and the quantity of food digested by the stomach. If therefore the process of digestion is impeded, the attraction for oxygen and its separation from azot, with which it is combined, or blended, according to Jacquin, in atmospheric air, will be diminished. But when the air is overcharged with oxygen, the quantity separated by the lungs in respiration, even in the most unfavourable circumstances, will be increased.

Thus we see in the burning of a culinary fire, when it is almost extinguished; let the atmospheric air be overcharged with oxygen, or give it nitre, and the effect immediately produced will be rapid combustion with vehement heat and vivid flame; or supposing the air to have only its usual proportion of oxygen, let more combustible matter, such as sulphur, ether, ardent spirits, or even oil, be added to the fuel, and the effect will be the same. In some cases it may be sufficient merely to blow away the dust which separates between the combustibles and oxygen.

These attractions and combinations are governed by the laws of relative affinity, some of which, accurately determined by the sagacious and most laborious Kirwan, he has been so fortunate as to express by numbers.

In accounting for the costiveness, I mentioned my opinion, that it might arise from viscid mucus in the alimentary canal. This cause, as I am inclined to think, will at the same time prevent nutrition, and lessen in the system the demand for oxygen, and then we must not wonder that the lamp should emit a feeble light. With a plentiful supply of oxygen and hydrogen, the flame is bright; but a single drop of water floating on the surface of the melted

melted wax, will be sufficient to cut off the communication and prevent their combination; and such appears to me the effect of viscid mucus in the alimentary canal.

10. *Jaundice.* This will be considered largely in its proper place.

11. *Vigilance.* Of this I have already treated in section V.

From all that has been suggested, I am inclined to think with Dr. Cullen, that in melancholia there is torpor in the motion of the nervous power, both with respect to sensation and volition, (see his First Lines, § 1589); and this, in my opinion, seems to depend on viscid mucus lining the intestines; for no sooner is it, by a judicious treatment, cleared away, than vital heat increases, the pulse acquires strength, torpor is relieved, and the spirits rise.

This perfectly agrees with what I have stated respecting the remote causes of melancholia, all which relax the glands of the intestines, and produce accumulation of their mucus. And upon this principle, Hoffman in melancholia approves of antimonials, *Quod si enim tenaces, viscidi et biliosi in duodeno stabulantes humores vomitu evocandi sunt; flores antimonii egregium pollicentur fructum.* Vol. III. p. 261.

SECTION V.

Of the Indications of Cure in Melancholia.

From what has been delivered, warranted by experience, it will be found that our indications must be,

1. To free the intestines from indigested sordes and from viscid mucus.

2 To excite the vital energy by stimulating tonics, and to brace the relaxed fibre by astringents.

The first intention may be answered by,

a. Emetics, and for this purpose we may order,

℞ Pulv. Ipec. gr. 6. Antimon tartarisat. gr. 3. M. f. Pulv. Emet. mane sumend. & repet. omni horâ usque ad vomitionem.

The young practitioner must not be surprised if he should be obliged to give four or five emetics, before he obtains an operation. Dr. Pellet, of St. Alban, whose practice

practice in this line is so extensive as to occupy much of his attention, informs me, that for one patient he ordered twenty four grains of tartar emetic in the space of four and twenty hours, before he could procure an evacuation. At last the operation, which was by stool, was moderate, and he recovered. Others have given nearly twice that quantity before they could obtain any visible effect.

These emetics must be repeated every morning for some considerable time, then twice a week, or seldomer, according to the slime evacuated. In this disease, timidity, if combined with ignorance in the medical practitioner, is most injurious to the patient; for if after the first or second emetic he stops short, the glands will be soon overcharged with viscid mucus, and he will have lost his labour. On this practice Dr. Monro placed his chief dependance.

b. Cathartics. These must not be drastic, because they would defeat our purpose in more ways than one; for they would not only increase debility, but by powerfully stimulating the mucous glands produce a plentiful secretion, and consequently aggravate the symptoms they were intended to relieve. The best cathartic for our purpose is soluble tartar, as prescribed by Dr. Whytt.

℞ Kali Tartarisat. ʒiij. Solve in aq. font. ℥viij. Cui adde Aq. Cinnamon. Syr. Violar. aa. ℥j. M. f. H. m. s.

Soluble tartar three drams, dissolved in eight ounces of spring water, with cinnamon water, and syrup of violets, of each one ounce. In the morning.

This, adopted from the Germans, must be frequently repeated for weeks or months, if needful; or instead of this,

℞ Gum Ammon. dr. 2. Extr. Gent. Aloe Soc. aa. scr. 1. Ol. Menth. pip. gtt. 7 Bals. Peruv. q. s. M. f. pil. 36. Cap. Pil. 2. M. & v. cum Tinct. Cascar. dr. 2. in Infus. Flor. Chamæmel Unc. 2.

Calomel, in doses of two to ten grains, given at night, avoiding acids and every kind of medicine which can quicken its operation, is excellent. This commonly lies quiet in the bowels all the night, and when the patient rises, brings a stool, not watery, but of due consistence with fæces, black bile, and viscid mucus. In the morning

ing this may be assisted by any of the preceding formulæ. It must not, however, be exhibited too often, lest it should either effect the mouth, debilitate the system, or stimulate too frequently the mucous glands.

For the use of emetics and mercurial laxatives in melancholia we have the authority of Boerhaave.

Van Swieten very properly recommends plenty of detergent vegetables, such as are commonly used for sallads at our table, particularly endive, lettuce, cellery, spinnage, and dandelion; to which he adds, with equal commendation, gooseberries, currants, rasberries, strawberries, and cherries. In support of his recommendation he assures us, that he has seen patients in the most distressing cases of melancholia, perfectly restored to health by cherries and strawberries alone; of which, refusing all other food, they devoured more than twenty pounds a day, and that for many weeks together. It is true this enormous quantity of fruit brought on a *diarrhœa*, but then he adds, *per alvum exibat soluta* FÆX ATRABILARIA, that is, undoubtedly they passed stools of corrupted bile and viscid mucus, after which they speedily recovered; a healthy appetite returned, and, although much weakened by this discipline, they soon regained their strength. He adduces likewise the testimony of Hoffman in favour of a detergent diet, and forbidding the use of drastic purges, he adds most judiciously *cum autem picea fere tenacitate visceribus hæreat atrabilarius humor, non facile purgantibus obedit.* Let the student consult the passage at large in § 1100 of this learned professor's commentary, and he will comprehend the dilemma, which has perplexed practitioners from the time of Hippocrates to this day. *Si malum persevcrat, fit incurabile: si evacuantibus pugnatur, sane et facile mobiles humores expelluntur,* TENACES *malique hærent, unde pejor morbus.* In this dilemma are involved all the drastic purges, distinguished by the name of *hydragogue*, because they evacuate, not always the natural fæces, but chiefly lymph, and that in great abundance, so as to increase debility. Such are hellebore, scammony, colocynth, jalap, gamboge; and I have frequently had occasion to observe, when these cathartics have

have been given, that the stools resembled the washing of a tub, whilst the hardened scybala had been left behind.

A tepid bath, recommended by Boerhaave and Hoffman, may be used with safety and advantage.

THE SECOND INTENTION may be answered by bark and bitters, but more especially by chalybeates assisted in their operation by the inspiration of well oxygenated air.

The myrrh and steel, as recommended by Dr. Griffith, may be here usefully applied. It will be found as prescribed for phthisis and for hysteria; but the doctor himself informs us, that he had given it in *melancholia*. To the myrrh and steel, bark may be added in this form, which may be varied as occasion shall require.

℞ Cinchon. ʒj Limat ferri. Myrrh. aa ʒij. Syr. Cor. Aurant. q. s. M. f. Elect. c. c. M. N. M 1. 0. 8. h.

Bark one ounce; myrrh and steel filings of each two drams; syrup of orange peel sufficient to make an electuary. Dose the size of a nutmeg three times a day.

Or the following may be adopted.

℞ Cinchon. Ferri. rubig aa ʒj. Pulv. Aromat. ʒij. Cons. Cort. Aurant. ʒij. Syr. Zinzib. q. s. f. Elect. cujus M. N. M. ter in die sumend.

Bark and rust of iron of each one ounce; aromatic powder two drams; conserve of orange peel two ounces; syrup of ginger sufficient to make an electuary. Dose as in the former.

In addition to the bark and steel, Dr. THORNTON makes his patients respire well oxygenated air, and informs me that he has found it efficacious in a great variety of cases.

Mr. Windy having been for some time indisposed, became at length perfectly insane. He was placed in a madhouse at Chelsea, where for the first five months he raved, and after that for four months he scarcely ever uttered a single word. When he was removed from this place to be under Dr. THORNTON'S care he was gloomy, sullen, and silent, or muttered only expressions which evinced what were the terrors of his disturbed imagination. He had no recollection of his wife or children, and the only notice he took of his attendants, was to manifest suspicion that they meant to injure him. He was costive, and had remarkable coldness of the extremities.

As Dr. Thornton had succeeded with the *vital air* in a case of hypochondriasis, he determined to give this air a fair trial in the present instance. He began therefore with giving four quarts of vital air to ten quarts of common air, which produced no change.

He then gave ether and brandy, hoping thereby to increase the vital heat, but without the least effect, for his hand continued cold as clay.

Thus disappointed in his first effort to relieve his patient, he gave an emetic in the evening, which brought up a vast quantity of viscid mucus. At bed time he ordered a calomel pill, which was worked off in the morning with rhubarb and sal polychrest. Having thus cleansed the alimentary canal, he gave the day following ether and brandy as before, and caused his patient to inhale the same quantity of vital air, which instantly produced a genial warmth extending to his fingers' ends. Nor was this a transitory effect, for it continued all the time he was under Dr. Thornton's care.

In ten days from this time he became conscious of the presence of his wife and children, whom he called by their proper names, walked out and returned home, and, before the month was concluded, recollected the fortune he was possessed of, sent for the guardian of his wife and family (Mr. Ledeker, who lives in Greek Street, Soho), and entered minutely into the state of his affairs.

Some physicians have recommended opium as the most powerful in this disease, and have given it in large doses to remove anxiety, and to bring on sleep: but the misfortune is, that when the stimulant effect is over, the sedative effect takes place, and the patients sink lower than before they took this cordial soporific. The dose must be then increased, perhaps to ten or fifteen grains, and a constipation of the bowels is produced. At best it palliates one symptom, but strengthens the disease.

Baron Haller, for the four latter years of his life, sunk into a religious despondency that robbed him of all enjoyment, and almost of all the functions of life. Through the whole of that period he ceased to exist, or existed in misery, whenever he was not occupied by the pen or engaged in his studies. In consequence of ill health, he had gradually habituated himself to an excessive use of opium; and at last, by the violent application of that drug, as Zimmerman informs us, maintained himself in continual fluctuation between a state of mind unnaturally elevated, and the saddest dejection of despair.

It is said that in some cases of melancholia we must depend chiefly upon tonics and astringents; but these I apprehend do not frequently occur. When they do, the preceding evacuants must be used with caution.

Exercise in the open air, cheerful society, change of scene and agreeable pursuits, are the most efficacious tonics. Hence nothing in the cure of melancholia is more to be recommended than travelling, which quickens the circulation, sharpens the appetite, promotes perspiration, increases all the secretions, procures refreshing sleep, and, completely changing all habits and associations of

of ideas, puts an end to the delirium. The poet says, "throw but a stone, the giant dies;" and Dr. Mead relates a case, which clearly proves the benefit to be received from exercise. A fellow of a college, in the last extremity of melancholy, ordered his passing-bell to toll, and listened to the knell with deep attention. Perceiving, however, that the sexton was a novice in his art, he lost all patience, rose from his bed, and crept away to church, where he gave instructions how to toll the bell and how to ring a peal. From verbal instruction he proceeded to set the sexton an example, and having fatigued himself effectually, he returned to his chamber and went again to bed. Here he slept profoundly, sweat freely, and when he awoke, forgot that he was ill.

When this disease is symptomatic of atonic gout, obstructed catamenia, or the hæmorrhoidal flux suppressed, attention must be paid to the primary disease.

Hitherto I have mentioned only what is to be prescribed by the physician; but he is not the only person who is to contribute towards the cure. The friends of the melancholic patient must lend their assistance to the medical adviser.

If the disease originates in grief, in anxiety, in fear, moral arguments must not be forgotten.

If some idle fancy, having possession of the mind, prevents refreshing sleep, restrains from change of air and exercise, or keeps the patient from taking wholesome food; his friends must counteract this fancy, not openly and directly, but secretly and with much address.

Boerhaave tells us of a melancholic patient, a counsellor at Paris, who retained his urine, lest he should deluge the whole city, till his friends raised a cry of fire, and prevailed on him to lend his assistance towards extinguishing the flames.

His commentator, Van Swieten, mentions a patient, who, by immoderate application to his studies becoming deeply melancholic, conceited that his legs were made of glass, and therefore caused himself to be carried from his bed to an armed chair, in which he sat perpetually before the fire: till the maid servant threw a block of wood

upon his shins, which excited pain, and with it such indignation, that he forgot the transmutation of his limbs, and pursued her in a rage to take revenge. Thus convinced, the imagination left him, and by proper exercise he perfectly recovered.

Genus LX. Mania.

The symptoms are, an erroneous judgment arising from imaginary perceptions, or false associations, and producing disproportionate emotions, with a hurry of mind in pursuing a train of thought, or in running from one train of thought to another, attended with incoherent speech, called raving, and violent impatience of either contradiction or restraint.

SECTION I.

The History of Mania.

This disease is commonly preceded by redness in the eyes, headach, quickness of hearing, noise and singing in the ears, absence of sleep, with more than common irritability, manifested either by unseasonable laughter or by unprovoked displeasure. Its approach may be apprehended when we discover unusual suspiciousness of temper with pride and haughtiness of carriage, strong selfwill, eagerness and impatience of contradiction, with capricious likings and dislikes. Women sometimes discover blood collected in their nipples.

During the paroxysms of rage and fury, the force of the animal functions is prodigiously increased, so as sometimes to require four or five strong men to restrain its violence, whilst the vital functions, as appears by the pulse, are little altered. Persons in this disease are remarkable for bearing hunger, vigilance, and cold, without apparent inconvenience. When they refuse all kinds of food, it is frequently under apprehensions of treachery and poison. Their nearest relations and best friends, the objects of their former attachment and affection, are usually those to whom they manifest the most indignant hatred.

tred. The unhappy sufferers, in addition to these distressing symptoms, however before distinguished for purity and piety, are apt to discover the most libidinous desires, and to utter incessantly their obscene and blasphemous expressions. Their eyes seldom harmonize with the other features of their countenance, but are either fixed, fierce, malicious, or unmeaning. They excel in artifice and conceal their mischievous designs, when they are contriving to indulge their brutal rage. They are conscious of their own actions, and perfectly sensible to every thing about them of which they retain the recollection.

Mania is either continued or periodical, either without perfect intermissions, although it may frequently remit, or returning only by intervals, which may be either solsticial, equinoxial, or lunar.

On the decline of the paroxysm maniacs remain quiet, exhausted, stupid, inoffensive, gloomy.

It is worthy of our observation, that mania has a tendency to cure all other diseases, excepting those which immediately affect the brain: and that persons suffering by this, are not liable to receive infection during the prevalence of any epidemical disease.

The natural and spontaneous solution of mania merits our attention and may direct our practice. It has been known to terminate by a copious bleeding of the nose, by the menstrual or by the hæmorrhoidal flux, by diarrhœa and dysentary, by cuticular eruptions, and by the breaking out of ulcers. Intermittent fevers have produced the same benign effect. It has given place to dropsy, for these two diseases can scarcely subsist together. Pregnancy is favourable according to the axiom of Hippocrates, Si conceperint, sanæ fiunt. When mania terminates fatally, it is by *phrenitis* commonly, sometimes by *epilepsy*, or should it be protracted after repeated paroxysms, the patient loses both understanding and memory, and becomes an idiot.

SECTION II.

Of the Species of Mania.

Hoffman was of opinion, that there is but one species of

of mania, and that this differs only in degree from its parent melancholia.

Boerhaave partly agreed with him, and asserted in general terms, *Si melancholia eousque increscit, ut tanta accedat agitatio liquidi cerebrosi, qua in furorem agantur, fævum mania vocatur. Qua gradu modo differt a melancholia tristi; hujus proles est; ex iisdem causis oritur; iisdem fere remediis curari solet.* § 1118, 1119. Yet he afterwards distinguishes three species of mania, requiring different indications of cure.

These eminent professors are wrong in stating mania and melancholia to be the same disease, differing only in degree. Certain it is, that melancholia very frequently, as I shall have occasion to shew, runs up into mania; yet we have instances of mania, wholly and permanently distinct from melancholia.

Dr. Cullen has made this distinction, and has at the same time suggested an idea of two species of mania, according as it appears in the melancholic, or in the sanguine temperament. § 1574.

His idea is certainly well founded, and leads to practical improvements in the usual treatment of maniacs; yet we cannot help expressing our surprise, that he should have discovered any hesitation in making this distinction, when he found it so clearly marked in the aphorisms of Boerhaave.

In his nosology, Dr. Cullen has three species,

1. Mania *mentalis* omnino a pathemate mentis.
2. Mania *corporea* a vitio, corporis evidente.
3. Mania *obscura* prægresso nullo vel pathemate mentis vel vitio corporis evidente.

And for these distinctions likewise there is some foundation; but as my plan is to assist the young practitioner, I shall in my arrangement fix upon such species only as require medical distinction. These are to be found in Boerhaave; but as it will be needful at all hazards to distinguish them by name as well as by character, I shall venture to call them,

1. Mania *melancholica*. 2. M. *phrenitoides*. 3. M. *hysterica*.

MANIA

MANIA MELANCHOLICA essentially agrees with Hoffman's *delirium melancholicum et maniacum*, and with the first species of mania described and treated of by Boerhaave in his aphorisms, from § 1119, to § 1124. It also perfectly coincides with Cullen's idea in his First Lines, § 1574.

My two other species are comprehended in what he would have denominated *mania sanguinea ;* but if, in deference to his suggestion, I had adopted that appellation, there still would have been room for a distinction. This distinction of two species, both belonging to the sanguine temperament, is marked, as I shall prove, by Sydenham, by Boerhaave, and by his learned commentator. In the mean time I must request the student to recollect what I have delivered on the *sanguine temperament* in the third section of the order spasmi, where it appears that, in proportion to the tension or laxity of the simple solids, we may in this temperament expect either *inflammatory* or *spasmodic affections*. The student may likewise recollect that, in my observations on *apoplexia*, a disease which has some affinity to mania, because in it there is a determination to the head, he had a glimpse of the same distinction in the *apoplexia spasmodica* of HOFFMAN, which, as I stated, strictly speaking, is a species of *apoplexia sanguinea*.

These therefore are the species I shall labour to establish, as requiring each of them a distinct mode of treatment. For the *mania mentalis* of CULLEN I shall reserve a separate section. His species of insanity, which he describes in § 1576 to 1581, and for which he was unable to find a generic term under his order of VESANIÆ, can scarcely be considered as a disease. Sauvage has called it *melancholia moria ;* but, as it is attended with agreeable impressions, the man when cured may say to his physicians,

Pol me occidistis, amici,
Cui sic extorta voluptas,
Et demptus per vim mentis gratissimus error.

I once saw an instance of this, I was going to call it delightful melancholy, in a reverend divine, who took to a

a sedentary, solitary life, and fared sumptuously every day. He was perfectly rational in his discourse, unless when you asked him how he did; but then he felt fatigued after hunting with the king, or he had rather drank too much Burgundy whilst dining with the prince, or was somewhat troubled with the colic after feasting on the most delicious melons sent him by the empress: in a word, he was always overwhelmed with some felicity.

SECTION III.

Of Mania Melancholica.

This species of *mania* is commonly preceded by and alternates with *melancholia*. For the general symptoms, therefore, we must refer to what has been already stated *as the symptoms in both these diseases*. But in addition to these we may observe with Boerhaave, that in this species of mania, all the secretions and excretions fail, or become exceedingly diminished. Such patients obstinately refuse both meat and drink for a considerable time; their mouth is dry, their urine is little in quantity, and, if they take nourishment, it moves slowly through the intestinal canal, where the absorbents take up all that is fluid. Hence the fæces are small and hardened scybala, and remain collected in the greater guts. Vide § 1122 of Boerhaave's aphorisms. Sauvage attended one in this disease who refused every kind of substance, except tobacco, for forty days, and consequently had little or nothing to pass by the excretions.

The predisponent cause is debility, increased by indolence; and the occasional causes are commonly anxiety and grief, intemperance, deep study, violent passions and emotions, with disappointed love, and wounded pride. But the most usual cause is fear, for, as Sauvage has well expressed himself, *Maniaci, utcunque audaces sint, ipsa metu maximo quodam ad insaniam fere omnes ducuntur.*

As to the proximate cause of mania, various opinions have been delivered; but those of the best masters essentially agree. Hoffman conceives it to be a vehement and impetuous circulation of dense and melancholic blood

blood through the weakened and flaccid vessels of the brain. Dr. Cullen is inclined to think it is increased and unequal excitement in the brain.

That in mania there is a preternatural determination to the head, is evident by the redness of the eyes, and may be put beyond a doubt by pressing the carotid arteries of a maniac in the way first communicated to the publick by my ingenious friend Dr. Parry. The mania instantly ceases, and for the time reason resumes her empire.

Whence then arises the preternatural excitement in the brain? Certainly from this undue determination of blood to the superior regions, and from its impetuous circulation in the vessels of that organ. Should the student again enquire what causes this determination of blood to the superior regions; I can answer with confidence, that in *mania melancholica* it arises from affections of the alimentary canal. In confirmation of this opinion, I must request the student, who wishes to have clear and distinct ideas of the cause, before he attempts to cure this deplorable disease, to consider what I have said in the section on delirium, and in that which treats of the remote causes of melancholia, all which agrees with ARETÆUS, who says that the principal seat of mania and melancholia is in the intestinal canal.

Boerhaave has distinctly marked a connexion between mania, melancholia, apoplexia, and epilepsia, as relates to their occasional cause, *Si melancholia diu perseverat, producit dementiam*, EPILEPSIAM, APOPLEXIAM, MANIAM, *convulsionem, cæcitatem, &c.* § 1109. Now if the student will take the trouble to consult what I have delivered on the proximate and occasional causes of apoplexy and of epilepsy, or if he will consult what Hoffman has written on those most interesting subjects; he will be satisfied, that although in *mania melancholica* the archer has directed his arrows to the head, he himself, as I shall endeavour to explain in the fifth section, has taken his station in the alimentary canal.

In practice it is frequently curious to observe, when flushing of the face with heat, pulsation of the arteries

felt by the patient in his brain, and a sense of coldness in his feet, all proving a strong determination to the head; how soon these symptoms are relieved, and the equilibrium in the circulation is restored, sometimes by a gentle emetic, and at other times by one dose of calomel, producing copious evacuation of fæces, of viscid mucus, and of bile.

It is of this species of mania in particular that Boerhaave says, *Frustra tentatæ per omnia remedia, varix, hæmorrhois, dysenteria, hydrops, hæmorrhagia magna spontanea, febres tertianæ, quartanæve, accedentes, salutaria fuerunt.*

From all that I have stated, it will follow that the indications of cure must be,

1. *To lessen the determination to the brain, and thereby to moderate the preternatural excitement of that organ.*

2. *To remove the material and occasional cause of that determination by restoring the natural secretions.*

3. *To strengthen the whole system, more especially the alimentary canal and the vessels of the brain.*

These indications coincide with those of professor Hoffman, and I am happy to find that they agree with those also of the most distinguished practitioner in this line, Dr. Foart Simmons, physician to St. Luke's.

To answer the two first intentions, we begin with emetics and cathartics, precisely as recommended in melancholia, to which I must beg the attention of the student. In this all the best practitioners, ancient and modern, are agreed. Dr. Monro assures us, that the evacuation by vomiting is infinitely preferable to any other. The prodigious quantity of phlegm with which patients in this disease abound, he says, is not to be got the better of but by repeated emetics. Nor have purgative medicines their right effect, till the phlegm is broken and attenuated by frequent emetics. He mentions instances of inverterate cases cured wholly by emetics and a proper regimen.

The *emetic* must be administered with a liberal hand; for whether it be, that a more powerful irritation in the brain diminishes the irritability of the alimentary canal, or that a viscid and tenacious mucus lining the stomach and

and the bowels is interposed between the medicine and the animated fibre, certain it is, that these maniacs require the strongest doses of emetics to procure an operation. Hence it happens frequently, that six or seven grains of tartarised antimony must be repeated five or six times, at short intervals, to produce effect.

When I was last winter at Southampton, a Guernsey merchant was brought by his keepers to be confined in a madhouse, but fortunately for him and for his friends, a young apothecary of my acquaintance, who, on his being landed in a furious state, was consulted where to place him, gave him before night twenty nine grains of tartarised antimony, which brought up a great quantity of viscid mucus, and the next morning he was calm and recollected. What became of him afterwards I was not informed.

Dr. Cox relates a case, in which, after tartarised antimony, he had administered a decoction of digitalis, made from the dried leaves, in the proportion of one ounce to three half pints of water, giving three spoonfuls every three hours. This brought up a great quantity of viscid phlegm, and the subsequent nausea continued for two days, when a second exhibition produced the same effect; after which a third, with the assistance of opium at night, in nine days effected a cure.

The *cathartics* must be gentle; as the intention is not to procure a copious discharge by drastic purges, but to evacuate quietly the hardened fæces, and the tough offending mucus. The usual cathartics are, as already stated in melancholia, either kali ppt. or kali tartarisatum. These may be given in the manner there prescribed. Calomel is excellent, but the cautions suggested in melancholia merit attention in its exhibition.

Sir Clifton Wintringham recommends the following:

℞ Rad. Helleb. nigri. Kali tartarisat. aa dr. 2. Fol. Sennæ, un. ½. Aq. font. ℔j. Coque & adde Oxym. Scillæ, dr. 3. Syr. e. Spin. Cervin. dr. 6. M. c. c. o. 4. h. q. s. ad nauseam ciendam.

This proves cathartic, and evacuates the viscid mucus. Every night he gives half a dram of camphor.

The tepid bath is strongly recommended, and may be usefully applied to the feet and legs, if the heat is not too

too much increased, for the heat of 96 is usually sedative, relaxes the extreme vessels, consequently the whole system, and produces a derivation from the head. With this degree neither the heat of the body nor the frequency of the pulse are changed, but the urine and perspiration are increased. When the heat rises up above this degree, it is stimulant, quickens the pulse, and produces a determination to the head. In some experiments, recorded by the ingenious Dr. Duncan in his Medical Commentaries, a heat of 102° raised the pulse from 60 to 92, and the heat of the body from 96° to 100°, producing at the same time a flushing of the face at 106°, the pulse became quicker, the face was more flushed, the veins were swelled, and in five minutes vertigo came on.

In a case of mania melancholica, in which I was lately consulted, the patient suffered when the heat of the bath rose above 95; when it was at 97 she had strong flushing in her face and became very furious, and with a higher degree of temperature, although she only put her feet in water, her face flushed, and from being reasonable, she became violent in less than a quarter of an hour.

Galen asserts, that he has effected many cures both in mania and melancholia, merely by means of the tepid bath; and no one can entertain a doubt of its utility in promoting a derivation from the head.

In this species of mania Boerhaave recommends sudden and long continued submersion in the sea. *Precipitatio in mare, submersio in eo continuata, quamdiu ferri potest, princeps remedium est.* This practice was suggested by an accident, when the carpenter of Antwerp, who was raving mad, broke his bonds, and threw himself into a deep pool; but, being taken out again to all appearance dead, not only revived, but recovered instantly the use of reason, which he enjoyed to the day of his death at the distance of eighteen years. From the propitious event in the case before us, Van Helmont derived his practice of keeping his patients under water whilst he repeated the *miserere*, and Boerhaave after him advises to have the maniac kept in that situation till he is almost drowned, availing himself thus of three powers, all strongly sedative,

ative, fear, continued cold, and the exclusion of vital air from the lungs.

To answer the third intention we must have recourse to bitters, bark, and steel, precisely as recommended in melancholia. To these must be added exercise in the open air and change of scene, which may be best procured by travelling. By these means we shall restore tension and tone to the relaxed solids, more especially in the stomach, and in the whole of the alimentary canal.

Dr. Cullen recommends restraining the angry passions by fear, and preventing the effects of them by force: but my observations on this subject will be found in the sixth section by themselves.

To render what I have delivered more useful to the student, I shall here subjoin two cases from the inestimable works of Hoffman.

CASE I.

An ecclesiastic, aged 37, of the malancholic temperament, for many years had every month the hæmorrhoidal flux, during which time he enjoyed his health. But when, neglecting exercise, he pursued his studies even beyond the middle of the night, and in addition to this met with domestic trouble; the hæmorrhoidal flux diminished and ultimately failed. Soon after this he became hypochondriacal, and was troubled with flatulence, obstinate costiveness, and dyspeptic symptoms. By degrees he became timid, when he had no cause to fear, suspicious, fond of solitude, wakeful in the night, or disturbed with frightful dreams, and continued almost incessantly muttering to himself. At times he became violent. This man was cured by tepid pediluvia, and the use of neutral salts, given in the following form:

℞ Pulv. ex lapid. Cancr. Kali vitriolat. Cremor Tart. Nitri, aa dr. 2. Cinnab. ppt. dr. ½. Ol. Cumin. gtt. 6. Liquor. Anodyn. Mineral. gtt. 20. Aq. font. un. 8. M. alternis diebus sum.

CASE II.

A Jew of the melancholic temperament, aged 40, studious and given to a sedentary life, hearing suddenly of the death of his son, became gloomy, affected solitude, and was so costive as to have stools only once a week. His lower extremities were cold, and his rest was exceedingly disturbed. At the end of six months, being terrified, he became furious, and refused both food and medicine, but by venesection his mania was subdued, and melancholy alone remained. This man was restored to health chiefly by the vegetable salts and the tepid pediluvium, with exercise, followed by fresh animal food, and generous wine.

If the student will take the trouble to look at the *examinations* on a case in which the whole nation felt deeply interested

interested, he will see, that the cure was effected by copious evacuations, after which tonics and astringents were prescribed to restore the strengh.

In all the cases with which Dr. Pellet of St. Alban's has been pleased to favour me, the cures were conducted on the same plan, and confirm the system I have endeavoured to establish. These, however, although highly interesting, are not reported sufficiently in detail for the public eye. His well approved integrity, humanity, and skill, must continually increase his practice in this line, and should he have leisure to report his cases, they will be a valuable acquisition to the medical practitioner.

SECTION IV.

Of Mania Phrenitoides.

The persons most subject to this species of mania, are not, as in the preceding, of the melancholic, but of the sanguine temperament. It may be readily distinguished by symptoms of plethora, by firmness and fulness of the pulse, by increase of heat, especially in the superior regions, by flushing of face with redness of eyes, by strong pulsation in the temporal and carotid arteries, and by the occasional causes being such as either produce sudden rarefaction of the blood, or strongly promote its determination to the head.

This species, with which the preceding and the subsequent, although distinguished by Boerhaave, have never yet been named, I have ventured to denominate *mania phrenitoides*, because from an attentive consideration of the symptoms, of the remote causes, of its natural termination, and of the means which are most effectual for its relief, I am inclined to think that there is local inflammation, although not sufficient to draw the system into consent, and produce a fever with delirium, as in the true phrenitis. In the delirium of phrenitis, the patient does not distinguish persons, nor is conscious of external objects, unless excited by some powerful sensation, and then he soon relapses; but in mania he is perfectly sensible of every thing around him, and retains both consciousness

ness and recollection: yet the affinity between the disease in question and phrenitis will appear from hence, that they very frequently run into each other; phrenitis produces mania; and mania, when fatal, terminates in phrenitis. I am supported in my opinion by Van Swieten, who informs us, that he has often observed a slight fever and delirium succeeded by the most furious mania; and this effect he attributes to inflammation of the meninges, and of the cortical substance of the brain. See his Comment. § 774, and the *phrenitis apyreta* of Sauvage.

The occasional causes of this mania may be, suppressed evacuations and eruptions, pregnancy, poisons, and heat, with violent passions and emotions in plethoric habits.

For the proximate cause I would assign a preternatural determination of blood to the vessels of the brain.

According to this view of the subject our indications must be to lessen the determination to the brain, and to moderate the excitement of that organ. To answer these intentions,

1. We must diminish the general tension and tone of the arterial system, which may be accomplished by the antiphlogistic regimen; by venesection and a vegetable diet, assisted by evacuants, such as emetics, cathartics, diaphoretics, and diuretics.

In this we are supported by the authority of Boerhaave, who says, *Mania vero enata in robustis, vegetis, floridæ ætatis, plethoricis, calidis, sanatur missione sanguinis iterata; purgatione forti inter singulas interposita; dein, impetrata sedatione, opiatis et cardiacis.* Aphorisms, § 1127.

In bleeding, the blood may be taken either from the temporal artery, as strongly recommended by Hildanus, who assures that he has seen many speedy cures performed by this alone, or it may be drawn from a vein, according to the usual practice of the present day. In this case Dr. Cullen advises us to take such a quantity of blood as may nearly bring on a deliquium animi.

The emetics should be frequently repeated, more especially when, by the evacuations, it is evident, that the mucous

mucous glands are loaded. This may be composed of tartarised antimony with ipecacuanha in sufficient quantities, or to these may be added oxymel of squills; or any of the formulæ, from No. 1 to No. 5, of my Physician's Vade Mecum, may serve the purpose.

Bernard Huet, a celebrated practitioner, whose method of cure is recorded by Wepfer, and highly approved of by Van Swieten, was fond of the more drastic cathartics, such as are denominated hydragogue. These he exhibited once a week, and this practice, although perhaps not the best, is frequently adopted. Among the hydragogue cathartics we may reckon sena, aloes, jalap, scammony, colocynth, gamboge, which are given either separately in appropriate doses, or variously combined. To these, either calomel or tartarised tartar are occasionally added. The former, when given, should be exhibited at night alone, in the dose of three to ten grains, and may be the next morning assisted in its operation by the following:

℞ Tinct Aloe. c. un. ½. Infus, Sen. un. 1. Kali Tart. dr. 2. M.
℞ Extract Colocynth. comp. gr. 6. f. Pill. m. s.
℞ Scammon. G. Guaiac. aa scr. 1. Aq. Cinnam. Syr. Rosæ aa dr. 2. M. f. haust. m. s.

But the neutral salts appear to me most suitable to this disease.

As a diuretic in this species of mania, digitalis has high pretensions, because no medicine so rapidly evacuates water or so speedily as a sedative sinks the pulse. We have already seen it given by Dr. Cox as an emetic, but as a diuretic we must moderate the dose, and be contented with one or two grains of the powdered leaves twice a day.

Diaphoretics are strongly recommended; and should the practitioner have recourse to them, he may either give Clutton's Febrifuge Spirit, Dover's powder, or the composition recommended by Dr. Whytt.

℞ Tinct. Opii, gtt. 40. Tinct. Ipecacuan. gtt. 45. Ammoniæ acetat. un. ½. Aq. Rosar. unc. 1. Sacch. Alb. dr. 2. M. h. s. s.

In preparing Clutton's Febrifuge Spirit, M. Corbyn, as he had the goodness to inform me, uses only vitriolic acid, without attempting to make the oil of sulphur by the bell, as ordered by Clutton. My friend Dr. Fothergill

gill considers this preparation as a combination of vitriolic acid with the muriatic, dulcified by alcohol, and constituting a compound ethereal spirit. He finds it diaphoretic, diuretic, anodyne, and sedative. He gives from thirty to seventy drops every three, six, or eight hours, according to the urgency of symptoms, and observes that it not only abates febrile thirst and heat, but diminishes the quickness of the pulse, removes delirium, and procures rest with refreshing sleep, where opiates have not only failed, but have increased inquietude.

Doctor Locker, of Vienna, assures us that he cured eight patients by distilled vinegar given to the quantity of an ounce and an half every day, for three months, which acted as a diaphoretic, and the more it sweated the sooner they were cured. I have not heard, whether this practice has been adopted in England; but I am inclined to think favourably of it, where the vital heat is preternaturally increased.

Doctor Cullen informs us that some maniacs have been cured by being compelled to hard and constant labour. This does more than divert the attention, for it exhausts the irritability and induces *sleep*.

2. To promote a derivation from the head, some have depended on cold induced either by a bag of snow, by cold water falling from a height directly on the head, or by a moist clay cap; but CELSUS made an improvement on this plan, and caused his patients to sit in a warm bath of oil whilst they had cold water poured upon their heads. This operation seldom fails to procure sleep, which in many cases has continued more than thirty hours.

3. Some practitioners place their chief dependence on sedatives, to diminish the preternatural excitement of the brain.

At the head of this last, as the most natural sedative, stands hard labour. Bernard Huet was accustomed to rely on opium, of which he gave two grains twice a day, and if by this dose he failed to bring on sleep, he increased it gradually, even as far as fifteen grains, till he obtained his end in the cessation of the furious fit. Sydenham followed his example, for after repeated venæsection, he

gave once a week a drastic purge, and in the intermediate space Venice treacle *(theriaca Andromachi)* in considerable doses. This practice has been pushed to the greatest length by Drs. Brandreth, Binns, and Currie; the latter of whom is said to have given, with remarkable success, two scruples of solid opium at one dose, and at the distance of four hours one scruple more. The patients, who took this enormous quantity of opium, are reported, from the most violent furor, to have been rendered thereby in a few hours perfectly calm and rational.

The celebrated Dr. Dobson in one case gave a scruple of *camphor* every three hours, which in twenty four hours reduced the pulse from 80 to 70. The next day he gave three drams in twelve hours, which brought on profuse sweating, sunk the pulse to 55, and cured the disorder.

Encouraged by this successful use of camphor, Dr. Oliver gave two scruples for a dose. In a quarter of an hour the *maniac* fell down insensible; but from that time recovered so as to attend his duty in parliament. At the end however of about eighteen months he became *hypochondriacal*, and soon after sunk into *melancholia*. He then repeated the same dose, and in ten minutes became pale, and sick, reeled into the arms of his physician, drooped his head and discharged by his mouth a quantity of thick viscid rheum: his respiration became laborious his pulse weak and intermitting, till he broke into a sweat. He got no rest till the next day, when a sleep of eight and forty hours commenced, accompanied by sweat. The camphor was then continued in doses of ten grains twice a day, till the patient was well enough to go into the country. This interesting case may be seen at large in the fifth volume of the Medical Journal.

Sennertus and Riverius combined nitre in a large proportion with the camphor.

Some patients are said to have been cured by mercurial salivation, but this method has been seldom resorted to.

It is in this species of mania that my valuable friend Dr. Thornton has proposed to try the inspiration of hydrogen, of carbonated hydrogen, or of azotic air. These are certainly

certainly the most powerful *sedatives*, and as such may be fairly subjected to trial.

When mania is occasioned by obstructed catamenia, emmenagogues must be resorted to.

After the disease has been subdued, it will be proper to give Peruvian bark and bitters to strengthen the system, but as to chalybeates, I should exhibit them with caution. For the formulæ I may refer to melancholia.

To elucidate this most interesting subject, and that I may render the distinctions I have made familiar to the student, I shall subjoin two cases.

CASE I.

A military prefect of the sanguine temperament, and a hard drinker from his youth, from distress of mind lost his senses, and became furious in the extreme. Having been however copiously bled three times within the month, and taken nitre, some remission of his disorder, but no perfect intermission, was obtained. In this situation, with constipation of bowels, flushing of face and fulness of its vessels, to which were added incessant vigilance and raving, Hoffman was consulted.

This eminent professor, with a view of making a derivation from the distended vessels of the brain, in the first instance evacuated the alvine fæces by gentle laxatives, for, as he most judiciously observes, *a determination to the head never fails to be supported by constipation of the bowels. In curatione eo potissimum respeximus,* UT SANGUINIS IMPETUS A CAPITE DIVERTATUR ; QUI VERO QUUM AB ALVI OBSTRUCTIONE NUNQUAM NON SUSTENTETUR, *primo omnium præscripsi laxans manatum & lac recens emulctum. Quod in præsenti ægroto insignem alvum laxandi exseruit efficaciam.* Nitre was given frequently during the day, and before he went to bed his feet were put into a tepid bath. For his common drink he had spring water, and his head was kept moist by the subsequent composition :

℞. Aq. Rosar. Aceti Rosar. aa un. 2. Nitri purificati dr. 2. Ol. lig. Rhodii, gtt. 12. M. f. Epithem.

Within the month this patient was perfectly recovered.

CASE II.

D. M. of the sanguine temperament, aged thirty seven, was seized in the winter of 1790 with mania, and raved night and day incessantly for eight days. Pulse full and strong, tongue clean, eyes wild and staring, his strength so much increased, that even when he had the strait waistcoat on, three men could scarcely restrain his violence, and his mental exertions, though erroneous, were extremely vigorous. What occasioned this derangement, his physician, Dr. Nankivell, of Cannonstreet, London, could not conjecture, except that probably young Bacchus might have had an hand in it, for D. M. at times had no mercy on the bottle.

The antiphlogistic regimen to its fullest extent was immediately adopted. He was bled plentifully. The blood exhibited no sign of inflammation.

inflammation. His head was shaved, and cupped and blistered. His bowels were kept freely open with neutral salts He had no food but bread, tea, and gruel, with cold water for his only drink. He was lashed down in a strait waistcoat on a mattress with very little covering, and no other companion but his keeper, who never spoke to him, unless when absolutely needful. His room was darkened. From the beginning Dr. Nankivell strongly impressed his mind with fear, both for the sake of its sedative effects and to secure obedience.

In this plan he persevered for seven days without perceptible alteration in the symptoms. On the eighth day the scalp was covered with a moist clay cap, whilst the feet were bathed in tepid water. This application was continued more than half an hour, when the cap being removed, he was replaced in his cool hard bed, where he fell immedately asleep, and slept profoundly for three and thirty hours.

When he awoke he was clearly convalescent, but still raved. On the evening of the tenth day, recourse was had again to the cold clay cap, and warm pediluvium; but in about four minutes he was seized with an *hysteric fit*, which being noticed by his sagacious physician, the straight waistcoat was instantly ordered to be taken off, and he was pronounced to be free from *mania*. Being put into his bed, he slept soundly for many hours; after which he was perfectly calm: and from that time he has constantly enjoyed the *mens sana in corpore sano*.

SECTION V.

Of Mania Hysterica.

This species may be distinguished from the two former by its common symptoms of debility, irritability and spasmodic affection, and not unfrequently by vividness of imagination.

The persons most liable to it are those of an irritable fibre and of a relaxed habit, that is, scrophulous and hysterical subjects, more especially if they have been previously weakened by disease. It has the same affinity to the delirium of typhus, as *mania phrenitoides* has to the delirium of synocha, for it is the disease not of the sthenic, but of the asthenic diathesis, and is more nearly related to *hysteria* than to *hypochondriasis*. This idea is suggested by Van Swieten, §1125, for, describing the remote causes of this species of mania, he observes, *hæc autem obtinent in hystericis dictis mulieribus.*

I. For the predisponent cause, therefore we may assign debility with morbid irritability, induced by debilitating diseases, particularly protracted intermittents, chiefly

chiefly of the *quartan* type, with profuse evacuations, whether natural or artificial, and whatever tends greatly to debilitate the system.

II. The occasional causes are,

1. Strong mental passions, emotions, and exertions. Sydenham, who was the first to distinguish this species of mania, describes it as *peculiaris quædam ac sui generis mania intermittentes diuturniores*, QUARTANAS PRÆCIPUE, *nonnunquam excipiens :* and Boerhaave, who himself learnt from Sydenham this and many other distinctions of the last importance, repeats the same expressions, § 1125. They both agree that repeated venæsections and copious evacuations, injudiciously prescribed in quartans, bring on this disease and cause it to return. To what they delivered, Van Swieten adds, *Tales manias aliquoties natas vidi in puerperis, si validâ exandescerent irâ primis diebus puerperii ;* and he might have extended this observation not merely to the period of the lochial, but also to the time of the menstrual discharge, for in both, violent passions of the mind occasion either mania or a fatal *apoplexy*.

2. Whatever induces spasmodic affection.

III. The proximate cause therefore, as it appears to me, is preternatural determination to the brain induced by spasm.

Van Swieten attributes this determination, 1. To the spasmodic constriction of the arteries themselves ; *spasmodicæ vasorum constrictiones possunt efficere, ut nimia plenitudo fiat in vasis cerebri ;* because they act not simply as elastic tubes, but have muscular fibres, by whose construction their diameters may be readily diminished. § 1010.

2. To spasmodic constriction in the abdominal viscera, such as *hysterical* women frequently experience. *Si etiam in aliis partibus corporis nascatur impedimentum sanguini per vasa moto ; poterit versus caput majori impetu & copia derivari : spasmodicas tales constrictiones in visceribus abdominalibus* HYSTERICÆ *toties experiuntur, uti notum est.* § 1125. His observations are accurate ; but it is to the immortal Hoffman that we must give the credit of this inestimable remark.

In

In addition to these causes of determination to the brain, assigned by Sauvage and Hoffman, I shall venture to suggest a third, which I am inclined to think both more common and more powerful than either of the former.

It is *spasmodic constriction of the diaphragm compressing the aorta.*

To explain this effect, I must call to the recollection of the student the anatomical structure of the parts in question.

The aorta descends from the thorax into the abdomen, between the two tendinous productions of the inferior muscle of the diaphragm, which are attached to the vertebræ. It is therefore evident that it must be subject to compression, whenever there is strong spasmodic contraction of these tendons, and it is equally clear that such compression must prevent a free descent of the blood. The consequence of this will be a preternatural determination to the brain.

That strong action of the diaphragm, whether in vomiting, in coughing, in immoderate laughter, the γελως ασβεστος of Artæus, in the expulsion of the fæces, in parturition, or in straining to raise great weights, causes a determination of blood to the head, is not only rendered at all times visible by redness of face, protrusion of the eyes, and distention of the vessels, but is sometimes evinced by apoplexy, as noticed by Aretæus, Boerhaave, and Van Swieten. For although these effects have been attributed to stagnation of venous blood in the right side of the heart ; this circumstance alone will not account for a preternatural proportion of arterial blood being either sent towards the head or accumulating there.

Spasmodic constriction of the diaphragm may be occasioned either by mental passions, or by morbid affections of the stomach. The consent between the stomach and the diaphragm has been already noticed, and may be observed in hiccough and in the act of vomiting ; but to account for this consent, we need only call to mind the nervous communication between these sympathizing organs.

1. The

1. The stomach is supplied with nerves from the *par vagum*, many ramifications of which are lost in the *plexus solaris* and the semilunar plexus.

2. The diaphragm derives its two diaphragmatic or phrenic nerves from the cervicales, and receives braches both from the *intercostal*, and more particularly from the *par vagum*.

Hence arises the wonderful consent between these organs, constantly maintained by means of the par vagum and the intercostal or great sympathetic nerve united in the *solar plexus*, which Fabre denominated *centre des sensations*.

From what I have delivered it will appear that the *phrenitis inanitorum* of Sauvage is precisely the disease I have been describing, and the attentive reader will discover that the same may be affirmed of his *paraphrosyne a pathemate*. His subsequent species *paraphrosyne puerperarum*, *paraphrosyne calentura*, *paraphrosyne febricosa*, *paraphrosyne critica*, *et paraphrosyne* HYSTERICA, all throw light upon the disease in question.

If the student will look back to the delirium of typhus, which is the *paraphrosyne febrilis* of Sauvage, or if he will consult my third section of the order spasmi; he will be satisfied, that what I have been stating has some claim to his attention.

My ideas of this disease are confirmed by a very judicious remark of Dr. Ferriar, who in his late publication says, *hysteria* is not unfrequently converted into epilepsy and insanity by the continued action of its remote causes. I have seen the discriminating symptoms of both diseases so intermixed in the paroxysms, that it was impossible to determine which of them predominated. In one case of this sort, a conversion into mania took place, but the change was perhaps decided by the violence of the passions; in another instance, after a long struggle, hysteria prevailed. See Medical Histories, p. 9.

From this view of the subject our indications of cure may be:

1. *To procure a derivation from the head.*

2. *To diminish the preternatural irritability of the system.*

3. *To*

3. *To remove morbid stimulants.*

4. *To divert the attention from the prevailing idea which has got possession of the mind.*

Of this species of mania our Sydenham remarks, *Illud autem peculiaris quædam et suigeneris mania communem medicandi rationem aspernatur :* and Boerhaave after Sydenham informs us in his aphorisms, *Hæc species solis reficientibus, replentibus, cardiacis, roborantibus, diu continuatis, sanatur. Et, si evacuando tentatur, atrophiam, debilitatem insuperabilem, fatuitatem infert.*

I. To answer the first intention therefore, the only practice to be recommended, is the tepid pediluvium, that is, a bath for the feet, heated to about 96° of Fahrenheit's thermometer. M. Pomme, in this disease kept his patients in the warm bath from ten to twenty four hours without intermission.

II. The second intention may be answered by tonics, such as a generous diet, cool air, cordial stimulants, bitters with astringents, and exercise in proportion to the strength. Sydenham depended chiefly on wine and Venice treacle, which last he gave three times a day : Boerhaave to these added the Peruvian bark, and cordial stimulants, as in the subsequent prescriptions.

℞ Cinchon. dr. 2. Cort. Winteran. dr. 3. Conserv. Rorismarin. un. 1. Syr. Kermes. Pharm, Edin. q. s. M. f. Elect. c. dr. ½. 0. 3. h.

℞ Elect. e Scord. dr. 1. Elæosacchar. ex Ol. Citri. dr. 2. Enulæ. un. 7. Syr. 5. Rad. aperient. q. s. M. f. Elect. c. dr. ½. 0. 3. h.

℞ Zinzib. condit. un. 3. Cort. Aurant. condit. un. 2. Nucis Mosch. dr. 4. Syr. Artemis. q. s. M. f. Elect. c. dr. ½. 0. 3. h.

℞ Theriac. Androm. Pulv. Diatessaron. Pharm. Ed. aa un. 1. Conserv. Abfinth. dr. 4. Rad. Angelic. dr. 2. Syr. Caryophyll. Rub. q. s. M. f Elect. dr. 1. 0. 6. h.

℞ Cinchon. Cort. Winteran. Cort. Citrei. Cort. Aurant. Cinnam. aa un. 1. Summit. Serpill. Thymi, Mari, aa dr. 4. Fl. Stæchad. Arab. Fl. Lavand. Fl. Tanacet aa un. 1. Ligni. Agalloch. L. Sassafr. aa dr. 6. Vin. Hispan. ℔ 6 M. f. s. A. Vinum medicatum Cardiacum Calidum, Roborans. c. un. 2. 0. 6. h.

These prescriptions are worthy of the great practitioner from whom they came, and perfectly answer the intention

tention by giving vigour to the system. For the same purpose the following, by way of change, may be occasionally ordered.

℞ Cinchon, Confect. Aromat. aa scr. 1. Aq. Cinnam. dr. 12. Sp. Cinnam Syr. Cort Aurant. aa dr. 1. M. f. H o. 8. h. s.

Or, should the bark in substance disagree, the subsequent may be adopted in its stead.

℞ Cinchon un. 1. Cascar. dr. 2 Coq. in Aq. font. un. 20. Ad. un. 16. Cola.

℞ Decoct. Prescript. un. 2. Tinct. Cinchon. Hux. Coch. j. parv. Confect. Aromat. gr x. Aq. Cinnam. dr. 4. Syr. Cort. Aurant. dr. 1. M. f. h. 0. 8. h. s.

To these may be added from five to ten or fifteen drops of Tinctura Opii, when it shall be thought expedient.

III. To answer the third intention, should acrid bile, or viscid mucus, be collected in the first passages, these must be evacuated by emetics. It is most astonishing to see the effects produced by the passions of the mind, more especially by anger, grief, and fear, in the whole extent of the alimentary canal. Anger promotes a sudden and plentiful discharge of bile, which stimulates the first passages, and brings on spasmodic constriction. Grief and fear relax the mucus glands; and although the latter, in the first instance, quickens the peristaltic motion of the bowels, they both terminate in costiveness. But if the mucous glands are not relaxed, and if the food is well digested in the stomach, little benefit can be expected from the action of emetics. Should a load of fæces in the bowels prove the cause of irritation, these must be removed by gentle cathartics, such as manna, cassia, tamarinds, soluble tartar, rhubarb and senna, by lenitive electuary, or by the subsequent composition.

℞ Tamarind un. ½. Fol. Sennæ dr. 2. Rhei. gr. 10—20. Aq. font. un 4 Coq. et Colaturæ, un. 3. Dissolve Mann. et. Syr. Ros. Solut. aa un. 1. M. f. h. m. s.

This was a favourite prescription of our Sydenham, when the most lenitive cathartic was required. But should this fail of its effect; calomel, from one grain to three, according to the irritability of the bowels, may be given the preceding night, with twenty grains of asafœtida, and five drops Ol. Carui. This may be followed in the morning by some gentle evacuants.

In a case, in which I visited a patient after Dr. Willis had left her, he had prescribed as follows:

℞ Antim. Tart. gr. iij. K li Tartarisat. ʒj. Suc. Cicut. ʒiss. Gum. Ammon Ammon. ppt. aa ʒj Aq. Distil. ʒxiij Sp. Nucis Mosch Syr. Croci. aa ʒj. Terendo. M. f. h. Cap. ʒxiv. Statim et rep. 6s horis et con.

Here the dose of soluble tartar is about one dram four times a day, and is quickened in its operation by other powerful detergents. The prescription is certainly a good one, but as it was continued only for three days, there was no opportunity in that case to judge of its effects.

Should there be symptoms of worms these must be destroyed by anthelmintics, keeping clear however of the more powerful cathartics; and the catamenia, if obstructed, must be restored by emmenagogues of the antispasmodic or of the astringent orders.

IV. To answer the fourth intention, change of scene, cheerful society, and agreeable pursuits, are the only remedies. Hence it is that some have been cured in the course of a long journey. I shall here subjoin some cases.

Case I.

An amiable lady, aged 41, of an irritable habit, renouncing air and exercise, employed herself unremittingly in reading, writing, and conversing on religious subjects. To clear her head, when she wished to express her thoughts with energy, she drank a quantity of strong green tea, after which she wrote or talked incessantly, but lost her rest at night. Her appetite diminished and became depraved. Her strength and spirits failed. Her feet and hands were dry and cold as ice, yet she had frequent flushing of face, more especially after eating. She became extremely costive, and when she took cathartics, they brought away stools like water, yet offensive and smelling like cat's urine, with which were evacuated a few small, hardened scybala. Even without the aid of medicine she had sometimes five or six motions in a day, each time voiding with difficulty a few of these compacted buttons. When she passed her urine, the flow was frequently interrupted, yet she had no symptoms of the stone. The urine was mostly limpid, and in great quantity. Her rest was much disturbed for three days before the appearance of her catamenia, and during that period she was always more than commonly fretful. Her spirits being depressed, she usually drank eight glasses of strong wine every day, but the exhilirating effect was soon exhausted, and she constantly sunk lower than before.

As the summer advanced her principal article of diet was green pea soup with fried bread; and in the autumn she ate peaches in great abundance;

abundance; her courses gradually diminished, and when the time of their appearance was at hand, she became mentally deranged; yet in about ten days after they were passed, she was perfectly reasonable again. The last time of their appearance they continued only for one day and she was rational: but putting her feet in hot water for a quarter of an hour, she had flushing of face and became outrageous: her courses stopped, and have not since returned.

The subject of her raving regards her spiritual estate, concerning which she seems to entertain unfavourable apprehensions. Yet her attention is readily recalled for short intervals to rational discourse, in which she discovers a perfect recollection, and remarkable vivacity of imagination. Her hearing, taste, and smell, are uncommonly acute. Her pulse is small and frequent, her tongue is clean, and her appetite now is ravenous. She has had emetics, cathartics, and a variety of antispasmodics, and has been confined chiefly to her room and to her bed.

Opium, which she has taken for a long time in considerable quantities, never fails to bring on flushing of face, to lessen her appetite, to increase her costiveness, to give a wildness to her eyes, to make her more violent, and to deprive her totally of rest, till its operation as a stimulant is over; after which sleep, but not refreshing sleep, succeeds, followed by languor in the extreme. For a few days she has omitted opium, and been confined to the following composition:

℞ Castor, gr. 15. Gum. Ammon. gr. 12. Mist. Camph. un. 1½. Sp. Ammon. comp. gtt. 30. M. f. H. om. sexta horâ repet.

Since she has taken this her rest has been more natural.

The tepid pediluvium, with the heat at 97°, brings on strong flushing of her face, and makes her furious.

Cathartics, such as jalap, scammony, and colocynth, act as hydragogues, but do not clear away the fæces, and magnesia gripes her much. Emetics remain long inactive in her stomach, and then come up unchanged, with strong convulsions, followed by numerous and copious stools, consisting of fæces with much viscid mucus.

Case II.

A lady of an irritable habit, being alarmed at the piercing cries of her child, was seized with an hysteric fit. Peppermint water, spirits, and magnesia discharged much wind; but the globus hystericus continued. Her teeth were closed, her eyes were fixed and much inflamed, and convulsion of the limbs succeeded. She snapped at her attendants, scratched them with her nails, and tore the pillow case with violence.

When this fit, after continuing for six hours, was aggravated by cordial stimulants, Dr. Thornton ordered an emetic of ipecacuanha, seven grains with one grain of tartarised antimony. The maniacal symptoms appeared to be aggravated: she seized the pillow with teeth, and the spasm of the œsophagus was distressingly increased: but a repetition of the emetic produced the desired effect, and a whole bason full of viscid slime came up, when the patient instantly recovered

covered the use of reason, called for her child, and the next day felt herself only to a slight degree indisposed.

This appears to be the *paraphrosyne a pathemate* of Sauvage, and resembles the case of CHARLES VI. of France, excepting only its speedy termination by a judicious treatment.

The case of M. P. mentioned by Dr. FERRIAR, vol. ii. p. 95, seems to have been similar to these. At least it shews similar benefit received by one emetic in a case of recent insanity.

CASE III.

A man aged 50, of an irritable temper, full of blood, and a hard drinker from his youth, having been for sixteen years accustomed to lose blood twice a year, omitted this practice, yet continued to drink hard. In these circumstances he was provoked to anger, and to such a degree, that he was instantly seized with violent vomiting and purging, and lost his appetite for food. Soon after this he became restless and watchful, and shewed evident tokens of insanity. Sometimes he was violent, at other times he was gloomy and fled from society; yet frequently his sorrow was suddenly turned to joy, when being more than commonly affable, his raving was incessant. These fits of insanity were never of long continuance, yet returned on the slightest mental disturbance, and were readily induced by the most trifling error in his diet.

Hoffman, being consulted, was of opinion that the determination to the head was occasioned by a spasmodic affection of the intestines induced by effusion of bile, and this effect he attributed to mental perturbation. He therefore ordered only antispasmodics and tonics, with a diet consisting of such articles as are easy of digestion, which, with the assistance of the tepid pediluvium, in a few months perfected a cure.

CASE IV.

Dr. Ferriar, in his medical histories, gives a very interesting case, which, as it appears to me, comes under *mania hysterica*. A lady of a domestic industrious disposition, and of a full habit, fell by degrees into a maniacal state, which discovered itself chiefly by uncommon levity in her conversation and behaviour. She could recollect, but never wholly restrain herself; was noisy, familiar, and constantly disposed to run and jump about. Her perceptions were quick, but not false. Small doses of mercury, usually half a grain, operated as strong cathartics. These were continued for three weeks, when a spontaneous diarrhœa supervened. She had then two grains of opium every night; the diarrhœa gradually ceased, and she remained free from every maniacal symptom.

SECTION

SECTION VI.

Of the Mania Mentalis of Dr. Cullen.

If any species of mania existed in the mind, without affecting the general system of the body, and were to be cured by moral arguments alone; this might with propriety be named *mania mentalis*: but as no such disease has been discovered by nosologists, this distinction is inadmissible.

Certain however it is, that vehement and ungratified desires, the indulgence of evil tempers, such as envy, pride, self will, and malice, not only occasion mental derangement, but contribute to support it through its several stages, till it terminates in death. These therefore in every species of insanity must be corrected or restrained, and it remains only to consider by what means.

1. In cases of debility, we must invigorate the system, and remove, if possible, all occasional causes of irritation, whether mental or material.

We know that people of a relaxed and irritable fibre, are the first to be distressed by their appetites and passions. Weakly children are commonly fretful, and all people in typhus are impatient, if they meet with either contradiction or delay; whilst the healthy and the hardy rustic, working perpetually in the open air, has so little irritability, that it is sometimes difficult to say which are most blunt, his mental or his bodily sensations. He is patient of hunger, of cold, of labour, and if he has met with any loss or contradiction, it makes but a faint impression and is soon forgotten.

In all cases, therefore, of morbid irritability, the legitimate offspring of debility, we must have recourse to tonics and astringents: we must invigorate the system by a generous diet, by fresh air, exercise, and agreeable society, and, if need be, we must call in the aid of bitters, bark and steel, or, in the language of modern chemistry, we must supply the lungs with *oxygen*, and the stomach with both *hydrogen* and *carbon*, which last, as I apprehend, is to be derived abundantly from mineral waters and from the Peruvian bark.

But

But whilst we are engaged in giving strength to the general habit, we must not forget to remove, as far as possible, the occasional causes of irritation, among which may be reckoned indigested sordes, acrid bile, worms, and viscid mucus, accumulated in the first passages, for all these, as we may frequently observe, render children and weakly people peevish, fretful, and discontented The same effect is produced by that anxiety which is usually felt when nature is preparing for some effort to relieve herself, as in cutaneous eruptions and in hæmorrhage. Mental anxiety likewise must be, if possible, relieved, and we must be careful not to recal those ideas which excite distress.

2. In lucid intervals, and the moments of calmness and tranquillity, we may try the force of moral arguments, for as Sauvage on this subject has very judiciously observed, at such seasons,

Sunt verba et voces quibus hunc depellere morbum possit qui sapiens est.

Resignation to the will of heaven, arising from confidence in the wisdom, power, and goodness of the Supreme, with firm persuasion that all events are subject to his providence, is the best preservative, and in lucid intervals the most powerful restorative, in all cases of insanity, which depend on mental irritation.

3. Strict coertion, when the patient is inclined to violence, is required, not merely to prevent mischief, but as a remedy ; because the desire to hurt, like every other passion, is strengthened by indulgence. The most effectual coercion is by the straight waistcoat, for when the miserable sufferer knows that his efforts will be in vain, he will be the less inclined to make them.

4. The most powerful restraint is fear.

It may, without due consideration, appear absurd to suppose, that madmen are under the influence of hope and fear ; but this supposition is well established, as perfectly agreeable to facts.

The subject is curious, and merits some discussion.

Linnæus, in tracing the analogy which reigns through nature, has conducted us from stones to vegetables,

bles, and from these to animals. The *analogy* between animals and vegetables is strikingly exact, and will, I doubt not, be accurately traced by my ingenious and most laborious friend Dr. THORNTON, in his Botanic work, a work which, from its magnificence, will do credit to himself, and be an honour to the age.

The *same analogy* subsists between the several classes of animals themselves, from the worm to insects, fish, the amphibia, birds, bats, monkies, man. To trace this progress belongs to the comparative anatomist, and if well executed, must be highly interesting. This subject however, for the present, I must leave, to be resumed hereafter, should I live to finish other works in which I am engaged. It is sufficient for our purpose to remark, that animals possess the vegetable nature, and that man, the most perfect of the animals, has completely all the natural properties, with the instinct of the brutes.

All animals with locomotive power possess the faculties of understanding, memory, and appetence; but to distinguish the noble from the ignoble, it may be observed that in brutes motion and volition are instinctive, whilst man, who has the moral sense, and superior intellectual powers, governs, or should govern, all his actions and volitions by the use of reason. But as every faculty is strengthened by exercise, and for want of exertion may be gradually weakened till it is wholly lost; hence it is that by inveterate habit, either reason establishes an absolute dominion over instinct, or instinct over reason, rendering a person either perfect as a man, or perfectly a brute.

Besides, when any faculty lies dormant, the rest, by the accumulation of vital energy, gain strength: and when, on the other hand, any faculty is exerted with intensity, it is commonly at the expence of all the rest.

If, then, a person has acquired the habit of being moved, without deliberation or the control of reason, by his appetites and volitions; if these, by being gratified, have gained the ascendency and are forever present to his mind; and if in such circumstances, *anger* is excited by real or supposed opposition to his vehement desires; the

the man will not consider what is just, honourable, or ultimately safe, but without hesitation, percisely like the brutes, will rush forward to revenge some insult, to seize the good which he desires, or to avert the evil which he dreads.

Every thing in these unfortunate sufferers demonstrates that they are degraded to the condition of the brutes, for in both we observe the same ferocious strength, the same disregard for cleanliness, the same want of decency and of shame, and the same impatience of restraint, till they are pefectly subdued.

It is not consciousness, which is wanting in maniacs, for after their recovery they recollect what has passed; it is not the defect of understanding which is to be lamented in the insane, for their intellects are often brightened by disease; it is not inability to feel the influence of hope and fear, which leaves them at the mercy of their passions, but it is their impetuosity of temper, it is the vehemence of their volitions which hurries them away. Yet whilst in this respect they have a striking resemblance to the brutes, it is happy that, like the brutes, they are extremely susceptible of fear.

Of this affection then we may avail ourselves not only to secure obedience, but to restrain their impetuosity, and to stifle the passion of anger in its birth, till the habit of patient submission is required, and by degrees the empire of reason is restored.

Van Swieten informs us that in Holland there was a celebrated practitioner, who frequently cured maniacs by rewards and punishments. When they were furious he had them dragged along by chains like wild beasts, and either followed them with stripes, or incessantly dashed cold water in their faces; and when that was insufficient, he tamed them by hunger and by thirst; but when they were subdued, when they became calm and submissive to his orders, he treated them with kindness, and granted them every suitable indulgence.

When however the authority of the physician is established, such severities are not only needless and cruel, but extremely detrimental. My friend Dr. Nankivell, whose abundant

abundant success must vindicate his practice, finds universally, that stern looks and an authoritative tone of voice are sufficient for the purpose. Should this fail, hunger will tame the most ferocious animals; and in aid of this, darkness and solitude may be resorted to without reproach. At all events, every ray of hope, that they may escape with impunity after having transgressed, must be precluded. For this reason they must be committed to the care of strangers, that they may never be encouraged to indulge their evil tempers and volitions, under the expectation of meeting with false tenderness and compassion from their friends.

As a part of their punishment, when they have deserved it by malicious violence and outrage, they may be subjected to some hard labour, which, if sufficiently prolonged, will not only subdue their ferocious temper, but by fatigue will induce the most salutary sleep. And when this bodily exertion is such as to require, in any degree, the attention of the mind, its good effects will be more certainly insured.

Genus LXI. Amentia.

This character is, imbecility of intellect, by which the relations of things are either not perceived or not recollected.

1. This frequently depends on some organic affection of the brain beyond the reach of medicine. Such is the *amentia congenita* of Dr. Cullen, and such is *amentia senilis*, which is the attendant of decrepitude.

2. It is the legitimate offspring of mania; for this, unless phrenitis supervenes and terminates in death, never fails, after long continuance, to produce *fatuity*. It sometimes originates in melancholia, and is more especially derived from these diseases, when they have been injudiciously treated by profuse evacuations, whether by venæsection or cathartics. Sydenham particularly complains of this in his observations on the species of mania, which succeeds to ill treated quartans. If, says he, we attack this disease by repeated venæsection and cathartics,

we may indeed subdue the ferocity of mania, but we shall certainly induce fatuity, and that without a possibility of cure.

3. *Amentia* very frequently remains as the consequence of fevers.

4. Sometimes it derives its origin from intemperance. Hence we have in Sauvage *amentia à temulentâ, amentia à venere, et amentia febrifuga.*

5. It has likewise been traced up to somnolence too much indulged.

6. But the most common source from which it springs is *epilepsy*, being a species of fatuity unnoticed either by Cullen or Sauvage.

The only hope of relief in this humiliating disease must be derived from a generous diet, cordial stimulants, air, exercise, and the most powerful tonics. Indeed several instances have been recorded of patients, who, after having been reduced to idiotism, have by these means perfectly recovered all their mental powers.

Mr. BELL of Edinburgh particularly mentions one, who, having lost both memory and intellect by epilepsy, in four months recovered both by flowers of zink, of which he took from one grain morning and evening to twelve grains three times a day.

Class III. CACHEXIÆ.

CACHEXIES.

THE distinctive character of this class is,

A depraved habit of body, without PYREXIA, and independent of NEUROSES, as original diseases.

The orders of this class are three:

I. MARCORES.
II. INTUMESCENTIÆ.
III. IMPETIGINES.

Of which the pathognomonic symptoms follow:

I. MARCORES, universal emaciation.

II. INTUMESCENTIÆ, general swellings.

III. IMPETIGINES,

III. IMPETIGINES, deformity of the external surface, by tumors, eruptions, and other preternatural affections of the skin.

INTRODUCTION.

WE have considered the diseases affecting principally the *heart* and the ARTERIAL SYSTEM, comprehended in the class PYREXIÆ.

We have dwelt largely on the disorders of the *brain* and of the NERVOUS SYSTEM, included in our class NEUROSES.

I now proceed to the discussion of those diseases, which more immediately arise from morbid action of the *stomach*, and of the LYMPHATIC SYSTEM. These will occupy our class CACHEXIÆ.

But whilst we thus survey detached portions of the animal economy, and examine the disorders to which each part is principally subject, it must be confessed, that nature has not left them independent of each other. Nay, so far is she from having established an empire within an empire, that, with most astonishing contrivance and unity of design, she has made each power subordinate to the rest; and from hence it is, that if one is principally affected, the others sympathize and are drawn into action by consent.

This idea is beautifully expressed by Hippocrates, when he compares the body to a circle in which we can find neither the beginning nor the end; and then remarks, that the same observation will hold good respecting its diseases.

Yet, notwithstanding the efforts of nature to relieve herself are thus combined, they require, for the sake of distinctness, to be separately viewed; and, to cure diseases, the attention must be turned towards the system chiefly affected, whether the *arterial*, the *nervous*, or the *lymphatic*.

SECTION I.

Of the Absorbents and their Use.

THE absorbents, strictly speaking, are either lacteal or lymphatic; but, with greater latitude, we might consider all

all the secretory and excretory vessels as belonging to the same system, because they possess the same vital action, and are governed by the same laws.

The *lacteals*, first discovered by Asellius, an Italian, A. D. 1622, are innumerable pellucid tubes, arising from all the intestines, chiefly from the villi of the smaller, and invisible, unless when distended with chyle, that is, with the milky fluid, which they select by animal attraction from the digested aliment. Their mouths, which are numerous in every villus, are so small as not to be discerned unless by the microscope, and at their commencement, after having left their villi, they are capillary; but as they unite in their progress towards the mesenteric glands, into which, by numerous ramifications, they empty their contents, they become larger. After their departure from those glands, which is by several ramifications, they diminish in number and increase in bulk, till they terminate in the receptacle, from whence the chyle ascends through the thoracic duct, and passing the semilunar valves, is discharged into the left subclavian vein.

These serve the double purpose of lacteals and lymphatics, for they absorb not only chyle, but the lymph of capillary arteries, and aqueous fluids from the intestines.

The *lymphatics*, for the knowledge of which we are indebted to RUDBECK, BARTHOLIN, HUNTER, HEWSON, MONRO, and CRUIKSHANK, are small pellucid tubes, furnished, like the lacteals and thoracic duct, with valves. They open their mouths into the cavities and cells, and upon all surfaces, as well external as internal, of the body, to collect the lymph poured forth by the excretory vessels, to imbibe it from arteries and veins, which they convey to the receptacle of chyle and to the thoracic duct. In their progress they discharge their contents into lymphatic glands, and in their whole extent they frequently inosculate, so as to keep up the communication without any hazard of interruption.

Nothing in nature can be more worthy of admiration than the vital action of the absorbents; and it is curious

to

to observe, that their activity continues unimpaired whilst sensation and the animal functions are perfectly suspended. This will be evident if we consider, that during sleep the bronchial mucus is much thickened, and that both the urine and the fæces shew the continued progress of absorption.

In our wonderful machine, to prevent friction and adhesions, it is required that vapour should be interposed between contiguous parts, more especially if either of them is designed for motion. This the excretories provide, but as it must be frequently renewed, absorbents are incessantly at work, to convey it back into the mass of circulating fluids. Dr. MUSGRAVE injected 24 ounces of water into the thorax of a dog, and in five days the whole was taken up by the absorbents, for the breathing became as free as it had been before this water was introduced into the chest.

In case of dropsy, nature, by means of the absorbent system, makes wonderful efforts to relieve herself.

JOHN HUNTER relates the case of a lady with swelled legs, who made little or no urine, and was so weak that she could scarcely articulate. She dozed incessantly, and had no desire for food. Her pulse was hardly to be felt, her feet and all her extremities were cold, yet within thirty six hours of her death, the whole water in her legs and thighs was absorbed, her urine was increased, and about ten hours before she died her legs and thighs were as small as ever. HOFFMAN, in confirmation of what is said by Aretæus, assures us, that he has seen many cured by a spontaneous and long continued diarrhœa. But what is most surprising is, a case recorded by Fernelius, Pathol. lib. 6. in which ascites was relieved at the approach of the menstrual period by a profuse discharge of water, which continued for two days; and when, in the interval of menstruation, the serous fluid had again collected, it was the next month entirely discharged by the uterus.

Some kind of vessels, as I have stated, are employed to take up the roscid lymph from the ventricles of the brain; but the office assigned to the common cellular absorbents

sorbents is twofold, for they not only imbibe the aqueous fluid from the reticular part of the cellular membrane, but, when it is needful, they absorb the animal oil from the little bags in which it is deposited, and convey it wherever it is wanted for the purposes of life.

When there is any extravasation either of lymph, of serum, or of blood, they remove it; and when extraneous matter gets into the system, if this proves injurious, they quickly go to work; or if any part is either dead or useless, it proves a sufficient stimulus to excite their action.

1. In cases of gangrene, both sloughing and exfoliation are produced by the absorbents, and thus a separation is made between the living and the dead.

2. When whole parts are to be removed, as useless, without producing solution of continuity in the surrounding parts; this can be accomplished only by the action of the absorbents. It is thus the thymus gland, the ductus arteriosus, the membrana pupillaris, are obliterated, and thus also the fangs of diseased teeth, with their sockets, are quietly destroyed. It is by this process that aged women lose their breasts, when these are no longer needful. When the cataract has been extracted, the absorbents take up the capsule, and frequently, more especially after couching, they carry off the cataract itself. The diseased testicle is removed by them, and sometimes in cases of necrosis they devour the bone itself. It is by this process that schirrous tumours are removed.

3. Du Hamel has demonstrated by his experiments, that the earthly parts of bones, on which they depend for solidity and strength, are unremittingly renewed, whilst the absorbents carry off, and exhalant arteries as constantly deposit, calcareous matter. This discovery he made by feeding animals alternately with common food, and with this strongly tinged by *rubia tinctorum;* in consequence of which their bones were variegated red and white. But when he had ceased to give the madder for six weeks this redness vanished.

4. When either extraneous bodies or dead parts, which cannot be absorbed, cause irritation in the system, the

the absorbents destroy the intermediate living parts between the offending matter and the nearest external surface of the body. It is by this process that nature frequently relieves herself in cases of necrosis and of extra uterine conceptions, as I have stated in the former part of my work, when treating of these efforts. And it is thus that pus, when produced internally, exfoliated bones, and all extraneous matters, are discharged. But sometimes it happens, that whilst the ulcerative process is destroying the inside of a bone, the ossifying process makes addition to its outside, and the bone increases to a prodigious size; but in the end, the ulceration on the inside gets the better, and the latter makes its escape. Whenever incysted tumours are formed in the cellular membrane, the whole substance between them and the skin is in process of time taken up by the absorbents, and then inflammation commences to produce a quicker absorption, which borders often upon ulceration. It is thus that the tumour is exposed. John Hunter mentions a case, which came under his inspection, in which a tumour, formed upon the brain, excited, to such a degree, the action of the absorbents, that without ulceration they carried off the opposing portions of the dura mater, of the scull, and of the scalp.

5. When the exhalants are at work in floating off offending matters from the system, as in *diarrhœa*, the absorbents become active by consent, and should it ever be proved that they invert their motion, as it has been ingeniously, but I fear not justly, supposed in *diabetes*, it must be still with the same intention of assisting to get rid of something highly stimulant.

6. When there is offending matter in the system, which cannot be expelled by the usual outlets, the absorbents convey it back into the mass of circulating fluids to be thrown out by the emunctories. Thus it is evidently in jaundice, for the bile being prevented from passing by the common duct into the intestines, is taken up by the absorbents and secreted by the kidnies. And when mania and melancholia are relieved by cuticular eruptions, I am inclined to think, that we are indebted

to the absorbents ; for upon all occasions they are ready to assist nature in her efforts to relieve herself. JOHN HUNTER mentions a young man who had a large bubo in the bottom of his belly, which having suppurated, and being on the point of breaking, was suddenly absorbed. While this process was going on, he observed his urine wheyish and thick, as it was coming from him ; but this went off entirely when the bubo had subsided.

SECTION II.

Of Morbid Action in the Absorbents.

SINCE the absorbents act, not by capillary attraction, but with vital energy, which is liable to increase and diminution ; it is evident that their activity may be either deficient or excessive. But whatever produces either direct or indirect debility lessens the action of the absorbents, because the vital energy is injured equally by both.

I. *Direct debility* is induced, *A.* By deficiency of wholesome nutriment when it fails either in quantity or quality. This we observe among people who live chiefly on the legumina, peas and beans, or on other unfermented vegetables, with dried, smoked, and salted flesh, as in Holland ; on cucumbers, melons, pompions, and other vapid fruits, as in the watered provinces of Spain ; or on bread, water, tea, as in some parts of England. *B.* By deficiency of exercise, more especially when the indolent and inactive spend most of their time in sleep, as already sufficiently explained. *C.* By sudden and profuse evacuations. *D.* By impure air with excess of humidity, as I have remarked more particularly in the Asturians on the northern coast of Spain. *E.* By such poisons as are directly sedative, among which I am inclined to reckon bile and the menstrual blood retained.

II. *Indirect debility* is induced by excitement either violent or long continued, and therefore by such poisons as are indirectly sedative, that is, whose first operation is stimulant. We have seen, by the experiments of the reverend Dr. *Hales* on vegetables, that their vital energy constantly accumulates during the night, and is to a certain

tain degree exhausted by the stimulus of light and heat before the middle of the day. And we observe, not here particularly to mention heat, that *wine*, *spices*, *spirits*, have precisely the same effect on the absorbents, as may be seen in gluttons, and in drunkards, whose spleen, pancreas, and liver, are frequently discovered to be schirrous.

The consequence of defective action in the absorbents must be disease, such as obesity, indolent tumours, aqueous accumulation, and herpetic eruptions, as will be explained when we proceed to the genera included in this class.

Excessive action of the absorbents produces atrophy, and may arise from either general excitement, as in acute fevers, or partial stimulants, as we shall see in the local diseases. The stimuli may be irritating substances, such as tears passing constantly over the checks; or *pressure*, whether by external objects, by indolent tumours, by pus, or by aneurisms; all which cause the lymphatics to absorb, not only membranes and muscular fibres, but the bones. Thus in case of a large aneurism of the aorta pressing against the back-bone, the artery is first absorbed where it comes in contact with the bone, and continues to waste till the whole is taken up, after which the bone itself is soon consumed; but as the surrounding parts unite by adhesive inflammation, a cavity of some strength for the circulating blood is always kept entire, and no extravasation can take place, nor can the parts readily give way. Thus also, when in palpitations of the heart, repeated pressure is made upon the ribs, they likewise are absorbed. We must suppose not only excessive, but mistaken action of the absorbents, when from external inflammation in the eye, they take up both the crystalline and the vitreous humours, leaving only a bag of water. When this happens to cataracts produced by contusion, and therefore by inflammation, we must attribute it, not to morbid action, but to the well directed efforts of nature to relieve herself.

It is *excessive* action of the absorbents, or perhaps rather deficient action of the exhalants, that produces

mollities ossium, in which the bones being deprived of all their calcareous earth by the absorbents, and not receiving a fresh supply from the exhalent arteries, become soft and pliable.

One species of morbid action in the absorbents is not easily reconciled with the general laws of the animal economy, but the effect is too readily discovered ; which is when they convey poisons into the system, such as the variolous, syphilitic, cancerous, canine, and others. Nor can we understand for what reasen they translate matter from cancers and scrophulous tumours to distant, and sometimes to more noble parts, than those which suffer. This, however, like many spasmodic affections, seems to be merely an effort of impatience, whilst the ordinary efforts appear to follow the most calm deliberation, and to be directed always by the best intention.

SECTION I.

Of the General Indications of Cure in Morbid Action of the Absorbents.

THESE must be derived from a consideration of the causes which produce morbid action, whether it be deficient or excessive.

In cases of defective action of the absorbents, the first attention must be paid to *diet*, which should be mild, yet generous, consisting of such articles as are most easy of digestion, with a moderate quantity of spice and wine. Further to assist the digestive powers of the stomach, and the general action of the absorbent system, recourse must be had to air and exercise. It is BOERHAAVE who has left us this direction.

Tum ut optime digeri queant, condimentis, potu vinoso, exercitio, aere, procurandum, § 1176.

By experience, all medical practitioners have been convinced, that health and vigour depend upon the *air* we breathe : but no one, till Dr. CRAWFORD wrote upon the subject, was ever able to explain what the air contributed towards heat and life. They had observed, that the blood acquires a florid colour by passing through the lungs,

lungs, precisely as when venal blood is exposed to the open air. They had remarked that the blood of those people was most florid who used most exercise, and that even the blood of horses after a long journey was more florid than when they had been confined without exercise in stables. They saw clearly that the blood of a cachectic woman is watery and of an obscure red: but that by increasing the blood's motion with frictions, exercise, and medicines, it recovers its bright colour. This change they attributed to its passage through the lungs, where, according to GALEN *and the ancients, it received some spirit from the air imparting vital energy to the arterial blood.* BOERHAAVE, from whose institutes I have derived these quotations, also asserts that the lungs receive *something* from the *air*, the nature of which he confesses himself unable to discover; but, in order to account for the red blood of fish, and the redness of the punctum saliens in an egg, he observes, that the gills of fish supply the office of lungs, and that air penetrates the egg to support the life and growth of the included chick, § 200—202.

It is at present understood, that vital energy is derived from the *oxygen* of *atmospheric air*: and, from the observations I have had frequently an opportunity of making on the practice of my friend Dr. THORNTON, I am inclined to think, that *oxygenated air* quickens the action of the absorbents: but of this medical practitioners must judge after a careful examination of cases submitted to their view.

Baron VAN SWIETEN in his comment on the aphorism of his master BOERHAAVE, wherein *air* is recommended, has remarked, that prisoners excluded from the air, and patients long confined to hospitals, become cachectic, that in such situations it is very difficult to cure them, and that from hence we may understand, why atrophy attends affections of the lungs, even when little is discharged by spitting, or lost by sensible evacuations. § 1174, § 1176.

Exercise increases respiration and promotes the oxygenation of the blood; and by this it gives vigour to the system, and excites the action of the absorbents. I have already

already spoken upon this subject; but, as patients pay too little attention to this most important part of regimen, I shall enlarge upon it.

It is the circulation of the blood which distributes vital energy to every part, for in syncope, and even in death, when it is a consequence of suffocation, all the vital organs remain perfect and entire; but for want of distribution of vital energy by the circulation of blood, neither the heart, the lungs, the stomach, nor the brain, can perform their office; there is neither secretion nor excretion; and all action, both vital and voluntary, ceases.

In those cachectic diseases, in which the circulation of the blood is languid, in vain will you pour in nutriment, unless at the same time by air, by exercise, and proper medicines, you promote the circulation, and consequently the secretion, with the vital energy of the absorbents.

Muscular motion, by compressing the veins, sends the blood with increasing vigour to the heart, which strongly stimulates that organ; the respiration is much quickened, the blood becomes highly *oxygenated* in its passage through the lungs, and in its return excites the heart to more powerful exertion, by which the whole arterial system is distended. This stimulates the vessels to contract with vital energy; the action and reaction are great; the contractions strong; all is activity, all is vigour.

Hence it is that if, of two brothers, one takes to a sedentary life, and the other is constantly engaged in hunting, shooting, fishing, or in the cultivation of the earth: this, with a ruddy countenance and rigid fibre, will enjoy high health, whilst the other pale, bloated, and relaxed, will be incessantly consulting his physician.

Of the different kinds of exercise, none is to be preferred to riding, because it agitates every part of the machine, and most powerfully promotes the action both of the exhalants and absorbents. SYDENHAM relates the case of a friend, who, by neglect of exercise, had brought himself into so deplorable a condition, that he was dying of a colliquative diarrhœa, which no medicines could relieve. This man, by the advice of his sagacious physician, mounted his horse, defied all weather, paid no attention

attention to his diet, but rode, at first short distances, in proportion to his strength; and continuing this practice without interruption for many months, he came at last to ride his twenty or thirty miles a day without fatigue, and was restored to perfect health and strength.

My friend Dr. STACK was consulted by the relations of a young nobleman then dying of atrophy, as it was thought, in Paris, to whom he recommended the Bath waters. The young nobleman was driven to despair by this advice, because he could not walk across his room, and was confined chiefly to his bed. But the marchioness his mother, a lady distinguished for spirit and resolution, prevailed on him to rise, supported him in his carriage, revived him with cordials when he fainted, and by short stages at first, in less than six weeks brought him to my friend at Bath in perfect health.

In a very ancient history of Cornwall mention is made of M. Atwel, a clerical physician, who infallibly cured all diseases; and so great was his celebrity, that patients travelled to him from every part of the island west of London, to know what quantity of apples and milk, for, excepting manus christi, and such like cordials, that was the only medicine he prescribed, would be good for them. Few of these, if they came from a *great distance* consulted him in vain; before they got home they were restored to health. Carew's Survey of Cornwall, p. 60.

SYDENHAM assures us, that he has frequently cured both tabes and phthisis by horse exercise and long journies, when all medicines had been given in vain, and this not merely in the incipient stages, but when night sweats and diarrhœa, usually the concluding symptoms, had appeared. MORTON expresses, in most energetic language, some sentiments respecting the benefits to be derived from air and exercise, and we may venture to affirm, that most kinds of cachexy may be cured by these alone, even without the aid of a physician.

Frictions, in some degree, answer the end of exercise, by diffusing vital heat and promoting the circulation of the blood. The benefit to be derived from hence is evident

dent in horses, who never enjoy high health when confined to stables, unless they are well combed and brushed.

Bandages, by pressure, assist weak vessels and promote absorption. It is for this reason that BOERHAAVE recommends compression in diseases of the weak relaxed fibre, because when either fibres or vessels are distended beyond their tones, their vital action will be weakened till it is wholly lost. And JOHN HUNTER has admirably stated, that the best exciting power is pressure, which, if urged beyond the point of ease, sets the absorbents of the part to work, for the purpose of removing either the substance pressing or the part which is pressed. These therefore, in some cases, may be usefully applied.

In cachectic patients, attention must be paid to the organs of digestion, which are usually deranged, and loaded either with indigested sordes, corrupted bile, or phlegm. If the stomach is affected, an emetic must be given, or if the smaller intestines require to be cleansed, gentle cathartics will be required, which in most cases may be followed by tonics and astringents. This the incomparable *Boerhaave* has enjoined.

Ut vero organa primarum coctionum itidem bene disponantur, leni digestivo, vomitivo, purgante roborante, prospiciendum. § 1177.

But whilst *emetics* prepare the digestive organs for tonics and astringents, they in many cases serve another useful purpose, by promoting absorption in every part of the system. *Cathartics* have the same effect, and among these none is more powerful than mercury, whether externally or internally applied. Indeed every increased evacuation excites absorption from distant parts, but independent of this effect, mercury stimulates the absorbents, and thereby excites their action.

Diaphoretics and *diuretics* will find their place, when we proceed to treat of the several genera comprehended in this class.

But the most effectual stimulant in all cachectic cases, attended by diminished excitement, is *steel*. This was the favourite remedy of SYDENHAM and BOERHAAVE, and it has continued to maintain its credit in the hands of all the

the most successful practitioners to the present day. To this Dr. SMITH owed his celebrity, and, from the experience of thirty years, I can venture to assure the student, that in few cachectic diseases will it ever fail to cure. Professor VAN SWIETEN says, "In practice I have met with innumerable cases in which cachexy has been cured by this remedy alone joined with grateful aromatics, after mild evacuants had cleared the first passages from mucus, filth, and indigested food;" and he particularly assures us, that by steel filings he never failed perfectly to cure cachectic virgins, provided they consented to take air and exercise, and to avoid warm liquids.

Chalybeates have certainly a two-fold effect, for, as the natural vehicle of oxygen, and the constituent principle of red blood, they strengthen the digestive organs and they excite the absorbents. Indeed all the metallic oxyds, excepting the mercurial, act in the same manner, only in a superlative, and therefore in a less manageable degree. For this reason *iron* has maintained its empire, and whilst we have one oxyd, which, when conjoined with the inhalation of *vital air*, in these cases may be regarded as infallible, we need be less solicitous about the rest.

I cannot conclude this article without making mention of *electricity*, which, as a powerful stimulant, has not only reduced swellings from sprains, and promoted the speedy absorption of considerable glandular and scrophulous tumours; but is known to attenuate fluids, and to excite strong action in the animated fibre, by which, among other remarkable effects, it quickens vegetation, increases perspiration, and restores the menstrual flux.

The symptoms and diseases produced by excessive action of the absorbents belong to other classes, either to the PYREXIÆ, or to the LOCALES, as we have seen in Section II. and therefore will not be considered here: yet, from what I have already said, it will not be difficult for the student to comprehend both their nature and their cure.

In cases of inverted action of the absorbents, supposing such cases to exist, we must naturally look to tonics, because

cause every kind of irregular motion in the system has for its predisponent cause morbid irritability, attended by debility, or, as JOHN HUNTER has beautifully expressed himself, "increased disposition to act without power to act with."

Class III. CACHEXIÆ. Order 1. MARCORES.

Distinguished by Universal Emaciation.

IN this order Dr. CULLEN, in his nosology, supposed two genera, *atrophia* and *tabes*, but in his practice he considers them as one. Might he not with propriety have placed DIARRHŒA and DIABETES here? They certainly would look better than where he left them.

Genus LXII. TABES.

Emaciation and Debility with Hectic.

SECTION I.

Of Nutrition.

THE articles of diet are: 1. Animal substances; 2. Vegetables; 3. Wine with fermented liquors; 4. Water. Let us consider these in order, and examine chemically of what nutritive ingredients they are composed.

1. *Animal substances* contain,

a. Hydrogen, which, when combined with the matter of heat, *is inflammable gas*; with oxygen is *water*; and with azot constitutes *ammonia*.

b. Carbon, which, with oxygen and the matter of heat, is *carbonic acid gas*, commonly called fixed air.

c. Azot, which, with oxygen in the proportion of two of the former to one of the latter, is *atmospheric air*; but when the proportion of oxygen is increased, this combination by chemical union makes the *nitrous* and the *nitric acids*.

d. Sulphur, which, when combined with oxygen in the proportion of 72 to 28, is *sulphuric acid*, or

or if united with hydrogen and the matter of heat, is *hepatic gas*, that is *sulphurated hydrogen.*

e. Phosphorus, of which, when $28\frac{1}{2}$ is united by combustion with $71\frac{1}{2}$ of oxygen, 100 of *phosphoric acid* is produced, whilst the whole of their light and heat are disengaged, for in this operation there is no smoke, no vapour, to lessen the sensible quantity of either. With hydrogen it takes fire spontaneously in air, but much better in oxygen gas.

f. Iron, constituting the red particles of blood.

The bones contain, with animal gluten, and phosphoric acid, a considerable portion of calcareous earth.

2. *Vegetables* contain chiefly hydrogen and carbon, with a quantity of oxygen in a triple combination, which continues till caloric, that is, the matter of heat, disturbs the balance of affinities : but with the heat of boiling water, the oxygen and part of the hydrogen become water, the rest of the hydrogen with part of the carbon becomes essential oil, and what remains at the bottom of the still is carbon. With a greater degree of heat different combinations are formed, for neither oil nor water are produced.

Some vegetable substances abound with *oil*, others with *sugar*, all contain salts, magnesia, calcareous earth and iron, with a small portion of azot.

Oil contains nearly 79 of carbon to 21 of hydrogen.

Sugar has, in 100 parts, 28 of carbon, 8 of hydrogen, and 64 of oxygen.

Fruits, unripe, contain a greater proportion of oxygen; but being exposed to the sun, they part with a portion of their oxygen, and when ripe retain very little.

3. *Wine* contains hydrogen and carbon in different proportions according to its strength or weakness. In fermentation it takes oxygen from the atmospheric air and becomes *vinegar*; but by distillation it yields alcohol or pure spirit, which contains about one fifth of hydrogen for 16 ounces of alcohol by combustion, uniting with oxygen from the atmospheric air, produces 18 ounces of water.

4. *Water*, as we have just observed, is not a simple element, but a compound of hydrogen 15 to 85 of oxygen.

This analysis, adopted from LAVOISIER and JACQUIN, being premised, I proceed to state, that aliments, whether taken from the animal or vegetable kingdoms, are nutritive in proportion to the combustible matter they contain. Hence it is, that of all the articles of diet, the fat of animals and vegetables, abounding either with oleaginous or saccharine matter, for nourishment, command the preference.

I have frequently had occasion to observe in the South of France, and in some parts of Spain, that during the vintage children grow plump, and it is well known that negroes in the sugar islands fatten quickly on the cane juice. Dates have nearly the same effect, and in Greece the peasants thrive remarkably on figs, which, as we are informed, was anciently the food of wrestlers. In many parts of England, the farmers formerly grew fat with ale, which, being extracted from malt, consequently contains, like all the preceding articles, much sugar.

It is now understood, that poulterers supply their fatting coops, not merely with barley and oats as formerly, but with hempseed, which contains oil in great abundance, and with a considerable quantity of suet.

All the substances above enumerated being properly blended give vigour to the system; but there is scarcely any combustible, but what contributes to the support of life. Some tribes have lived wholly upon fish, others upon flesh; whilst numerous hordes have been confined to milk and vegetables. I knew one gentleman at Edinburgh, a medical student, who for a considerable time supported life by sugar; another who supplied the vital flame for many days with opium; and it is well known that veteran sots take scarcely any other food but gin or brandy. All nations covet the substances which are most inflammable. In temperate and humid climates, where pastures abound with herbage, butter is a part of the daily aliment; but in sultry and frozen regions oil must supply its place. In the latter, for this purpose, they catch

catch some sorts of fish; in the former they cultivate the olive.

It is not, however, in these articles alone that combustible matter constitutes a part of diet; for ardent spirit, either pure or disguised under a variety of forms, is the daily beverage of all who can procure it. The sugar-cane, the maple, wheat, barley, oats, and rice, supply it to nations who never cultivate the vine; and even the wandering hordes of Tartars have contrived to extract it from their koumiss, the toilsome produce of mares' milk. It has been supposed, that water itself is decomposed by the organized fibre to furnish oxygen for the purpose of irritability and life. It is certainly decomposed by plants, from the leaves of which the oxygen, united to the solar ray, or at least by the solar ray combined with caloric, flies off in the form of vital air, whilst the hydrogen remains. The same may be said of fish, for RONDELET, in his work *de piscium nutritione*, cites a great number of examples of marine animals, which, by the very constitution of their organs, can derive nourishment from no other source but water; and he particularly mentions his having kept a fish three years in a vessel of pure water without other nourishment, and that during this time it continued to increase in size till it had completely filled the vessel. Every one knows, that frogs and toads have been discovered in rocks and trees, where they could have nothing to support them but pure water, and that gold fish thrive by that alone. Hence it seems to be evident, that some animals, like plants, decompose water to form new combinations; but that water, as such, and not merely as a solvent or vehicle, contributes generally to animal nutrition, has not yet been satisfactorily proved.

I have endeavoured in my first volume to explain the process of digestion.

From the stomach the aliment passes to the small intestines, where, as in the stomach, numerous lacteals absorb that part, which has been previously digested, and convert it into chyle. This they convey through the thoracic duct into the system to augment the common mass of circulating fluids.

During

During the course of circulation, the chemical operations are continued, and new combinations incessantly take place. Of these one of the most remarkable is that in which the lungs assist by the plentiful supply of *oxygen*, as the universal pabulum of life and flame, whilst they emit the superabundant carbon and hydrogen, which, united with caloric and oxygen, escape in the form of air and water. Thus the stomach is constantly providing the inflammable principle, whilst the lungs incessantly contribute what is wanting to feed the vital flame. We may therefore be permitted to remark, that no images could have been more agreeable to nature, than those adopted by the ancients, when they compared life to the burning of a lamp, and represented death by the inverted torch.

Thus far I have taken notice only of the hydrogen; but now the other component parts of animal substance call for our attention.

CARBON seems to be the bond of union to connect the several principles which constitute the animated fabric. When caustic alkali or quick lime deprives animal substances of their carbon, this union is dissolved. In carbonic acid air flesh remains unchanged, but in oxygen gas it putrefies quickly, the balance of affinities is disturbed, and new combinations take place; the oxygen disappears, and with it water and carbonic acid gas are formed. It is a well known experiment, that hanging fresh meat in a fig tree exposed to ths sun and air makes it quickly tender: and since the experiments of Dr. INGENHOUZ, we can understand this process, for the green leaves yield their oxygen to the solar beams: but if hung over fermenting beer, it continues tough.

By the late very valuable publication of Dr. BEDDOES on factitious air, it may be seen, that poultices in the act of fermentation stop the progress of mortification, that is, whilst thy emit carbon, for charcoal in powder has the same effect. It appears likewise, that oak bark, which contains carbon in the greatest abundance, has the same benign effect on scrophulous ulcers, restoring

restoring tone and tension to the relaxed vessels, and disposing them to heal.

If I am not much mistaken, it is for the purpose of obtaining a greater quantity of carbon than the stomach can derive from animal substances alone, that nature calls aloud for vegetables, as I shall more particularly notice when I proceed to treat of scurvy. And I am not only inclined, with many eminent professors, to attribute much to carbonic acid gas, whether combined in mineral waters or detached, and in a state of fermentation, when given internally in cases of debility with a relaxed condition of the solids and dissolved state of the blood, as in typhus; but to this also I would ascribe the superior efficacy of the Peruvian and other barks, because they abound with carbon. I must here observe, that both hydrogen and carbon, although deleterious in the extreme when applied directly to the lungs, are most grateful to the stomach, and contribute both to life and health.

Azot seems to be derived from atmospheric air, but whether it be so, or whether it was originally of animal production, it is not easy to determine. All animal substances, by putrefactive fermentation, produce it in abundance, and either in this way, or by distillation, it unites with hydrogen to form ammonia, which may be procured either from urine or from blood; but it is usually obtained from the horns and hoofs of quadrupeds. It is the *azot* which promotes the putrefactive process, for flesh being confined in azotic gas, quickly turns black, and is corrupted sooner than in any other air. It is a perfect conductor of electricity; but what purpose it answers in the animal economy has not been yet discovered.

Sulphur is said to be a component part of animal substance, but in what proportion, or for what end, has never been ascertained; neither has it been demonstrated from whence we are to derive its origin. We find it saturated with oxygen, and combined with vegetable alkali, in plants, particularly in the tamarisk (*tamarix*); and M. Deyeux has communicated several processes, by which it may be obtained pure, uncombined with oxygen, and crystallized, from the roots of plants. We obtain

tain it from pyrites and from alum, but then it must be observed, that neither alum nor pyrites are discovered either in granite, or in the clay that is derived from granite, for these substances are found only, as far as my observations go, in that species of clay which seems to have been produced by the dissolution of organized bodies, the clay which accompanies calcareous earth and chalk. And although the latter contains some masses of pyrites; yet we have no reason to consider this as an objection, for pyrites itself is produced from vegetables, and therefore it confirms my conjecture, that sulphur is originally derived from organized bodies. When I was last in Paris, M. SAGE gave me some beautiful octaedral crystals of sulphur, found by him near the gate St. Antoine, in the common receptacle of human ordure, and which he conceived to be derived from the vitriolic acid of the gypsum with which it was blended, for this was partly decomposed, and therefore fermented with vitriolic acid. His opinion seems to me well founded; but still this sulphur appears to have been derived from animals, because the calcareous basis of the gypsum claims that origin, and in a state of chalk most probably contained pyrites, or perhaps sulphur, and in either case with oxygen it would furnish vitriolic acid for the gypsum. The process by which this sulphur was produced may be readily understood, by considering what passes in a somewhat similar operation, for if either aluminous schist or gypsum with charcoal are subjected to a red heat, carbonic acid escapes in the form of gas, and sulphur remains with clay or lime, according as either of these was employed in the state of combination with the vitriolic acid.

That sulphur may be taken into the system, and pass both by perspiration and by urine, is most notorious; but even when no sulphur has been taken, hepatic gas is frequently discharged, and therefore seems to have been generated in the body.

PHOSPHORUS is decidedly an animal production, but all the purposes it answers in the animal economy will not be easily determined. We know that it combines with calcareous earth to give solidity and firmness to the bones,

bones, and that it is discharged in great abundance in the urine; but how it is generated, in what way it contributes to general health, or in what proportion, according to the several actions or morbid affections of the system, it is secreted by the kidnies, does not appear, nor have practitioners the power either to increase or to diminish the quantity produced.

Iron is contained in blood, in which it is the natural vehicle of oxygen, and being oxygenated gives the florid colour.

This metal appears to me to have derived its origin from animals and vegetables. At least we may remark, that it is universally found in vegetables and in the red blooded animals. It is a constituent part of limestone, often in great proportion, more especially in spathous iron ore, and it abounds in the clays which attend the secondary mountains, both which circumstances have been produced by the dissolution of organized bodies. Iron ore contains nearly one fourth manganese, but then manganese likewise is found in all vegetable ashes.

This wonderful metal, according to its degree of oxygenation, assumes all the colours of the rainbow, as may be easily seen by putting a bright poker in the fire, and with different acids it appears either red, yellow, blue, or the intermediate colours; but with vegetable astringents it is black.

Iron is found not only in the red globules of the blood, but in the bile; and here it may be remarked not only that the strongest animals have most red globules, but that their vigour bears proportion to the red globules. This observation agrees with what has been said of oxygen, as contributing to vital energy; because iron is a proper vehicle of that invigorating principle. None of the perfect metals so powerfully attracts it, for the slightest degree of humidity calcines it quickly. The use of iron in the system will appear from hence, that when given for thirty or forty days to a pale, bloated, languid, chlorotic virgin, who, with coldness of the extremities, low spirits, loss of appetite, feeble pulse, palpitation, and other symptoms of debility, is scarcely able to walk; the

vital

vital heat increases and is universally diffused, her pulse acquires strength, the pale and sallow countenance is painted like the rose, her appetite returns, her spirits rise, and by access to vital air, with proper exercise, she perfectly recovers her activity and health.

Sleep, if not too long protracted, contributes to nutrition, for it seems to be in this quiescent state, when every muscular fibre is relaxed, that the solids are repaired, the fat is deposited in its proper cells, the digestive process is promoted, the animal spirits are renewed, and the vital energy, expended and exhausted during the day, is again accumulated during the repose, the darkness, and the silence of the night.

SECTION II.

Of the Occasional Causes of Emaciation and Debility.

Emaciation and debility are occasioned by a variety of causes.

1. *By deficiency of food*, which may respect either quantity or quality: for should even the quantity be as much as the stomach can digest, yet if the aliment does not sufficiently abound with hydrogen and azot, as well as with carbon, the consequence will be a loss of strength and flesh. If the vegetable man, eating herbs, and drinking only water, were compelled to work, like one who eats heartily of flesh, and drinks fermented liquors, he would be soon emaciated, and die perfectly exhausted. What a miserable figure would a Gentoo from India make among our fire men, sugar bakers, coal heavers, or common London porters! His flesh, such as it is, scarcely hangs upon his bones, and is little suited to powerful exertion; whilst their tense and turgid muscles are employed in unremitted labour, and scarcely know what it is to feel fatigue.

2. *By indigestion*, when the food is either rejected by the stomach, or not well concocted there. To understand this, the student may consult what has been said of digestion and dyspepsia under the genera 1 and 39.

3. *By viscid mucus* lining the stomach and small intestines,

tines, as in *hypochondriasis* and *tussis stomachalis*. This prevents the entrance of the digested aliment into the lacteals, and at the same time both impedes and depraves digestion.

4. By *poisons*, which either destroy, as caustics, the very texture of the absorbents, or produce in them, by violence of stimulus, either palsy or spasmodic action; and in either case prevent nutrition.

5. By *scrophulous mesenteric glands* intercepting the chyle in its passage through the lacteals to the thoracic duct. This however is not the only way in which they produce emaciation, for they are certainly more than channels to convey the chyle, and therefore, when they are themselves diseased, they cannot perform their proper office of concoction.

6. By *profuse evacuations*, whether by diarrhœa, by diabetes, by ulcers, by hæmorrhage, by leucorrhæa, by the cutaneous pores in perspiration, by the seminal vessels, by the breasts in nurses, or by the salivary glands. In all animals the adipose membrane is a reservoir from which the vital lamp is occasionally supplied with oil, either for long journies, sickness, or protracted sleep. Hence it is, that birds of passage on their first arrival, men recovering from fever, and the various tribes of animals who remain torpid in the winter, having consumed their store, are remarkable for want of fat.

7. By *old age*. This seems to arise chiefly from the obliteration of vessels as we advance in years; but it may depend likewise on other causes. For from the weakened energy of the heart venous plethora succeeds, and the blood moves slowly in the vessels. Hence it derives less *oxygen* from the atmosphere, for it is astonishing to observe what a quantity of air children vitiate and consume when compared with old age.

As the force of the heart diminishes, the fluids are protruded less forcibly into the minuter vessels, and as the quantity of oxygen decreases in the system the vital energy is lessened continually till it is wholly lost.

But whether it be, that the aged fibre loses its attraction for the principle of irritability; or whether it be,

that it pertinaciously retains it, certain it is that with increasing years the irritability of the moving fibre, and the activity of the vascular system as well as the sensibility of the nerves, are gradually and constantly diminishing from infancy to old age. Hence it is, that tension and tone, as we advance towards the decline of life, are so much impaired, that emaciation and debility become the never failing attendants on decrepitude.

These are the circumstances which distinguish the several species of this genus.

SECTION III.

Of Hectic.

The hectic pyrexia has remissions and exacerbations twice a day, with evening chills clearly marked, followed by morning sweats. In this affection the appetite is various, thirst moderate, heat and dryness of the skin prevail, the tongue is clean, and increases constantly in redness; the urine is high coloured, and lets fall a branlike sediment; pulse hard, weak, and frequent, more especially after eating towards the evening; the countenance is pale, but has a circumscribed red spot on one or both the cheeks, more especially during the exacerbation; the eyes have a pearly whiteness; costiveness at first prevails, but towards the close a diarrhœa supervenes; emaciation and debility increase continually, the legs become œdematose, and delirium closes the scene.

It may thus be readily distinguished from both synocha and typhus. The system chiefly affected is, in synocha, the *arterial* with strong vascular excitement; in typhus, the *nervous* system with considerable increase both of sensibility and irritability; in hectic, the *absorbent* system without either strong vascular excitement, remarkable increase of sensibility, or any tendency to spasm.

This affection attends morbid emaciation like its shadow. It is likewise the common symptom of dropsy, of chlorosis, of rachitis, of worms and poisons eroding the intestines. It attends cancerous, scrophulous, and syphilitic ulcers, arising however not from absorption of either pus or

or matter, as JOHN HUNTER has demonstrated, because till the stimulus for restoring a part is given, that is, till the abscess is opened and proper inflammation follows, hectic does not take place, nor even then if the parts are well disposed to heal. But when nature is harassed by ineffectual efforts to relieve herself from some incurable disease, whether produced by the scrophulous, cancerous, or by the syphilitic virus; then hectic commences, always more speedily in proportion as the part affected is important to the purposes of life; and no sooner is the irritating cause removed, as in the extirpation of the cancerous breast, or the separation of a scrophulous joint, than hectic ceases.

SAUVAGE, who, like most nosologists, seems to have been perplexed where to arrange his hectic, has made it a genus under *febres*, and has included in it thirteen species, all which, coinciding with the correspondent species of his atrophy and tabes, need not to be particularly mentioned.

SECTION IV.

Of the Species of Tabes.

DR. CULLEN, in his nosology, following SAUVAGE, has considered atrophia and tabes as two distinct diseases, but he has not adopted all his species, for Sauvage enumerated no less than sixteen of the former, which Cullen reduced to four, and seventeen of the latter, which Cullen in his nosology reduced to three; but in his First Lines, dropping *atrophia cacochymica*, in its place he substituted his own *tabes scrophulosa*.

This he was the more inclined to do, because he felt, and indeed acknowledged, the impropriety of separating atrophy from tabes, since the former may fairly be considered merely as a symptom of the latter.

From what has been delivered on the occasional causes of emaciation, debility, and hectic, it will appear, that *tabes* may claim seven species.

1. Tabes *famelicorum*, arising from deficiency of food, as in the case of infants sent out to nurse, when perhaps three

three children hang upon the breast, which was designed for one.

2. Tabes *dyspeptica*, arising from indigestion, when from morbid irritability the food is instantly rejected by the stomach, or from any cause is badly concocted there.

3. Tabes *hypochondriaca*. In this species the nutriment is intercepted by viscid mucus in the first passages, as happens frequently to rickety children, to wormy patients, and to drunkards, in whom the mucous glands are much relaxed. With regard to wormy patients, no one doubts the existence of phlegm in the intestines giving harbour to those vermin. Of rickets I shall speak hereafter; and with respect to the hectic atrophy of his bibulous heroes, HOFFMAN has most judiciously remarked, *Sæpe hecticum hoc malum in principio a sola atonia pendet*. Vol. II. p. 182.

4. Tabes *venenata*. This corresponds with the *hectica stomachica et intestinalis* of Hoffman, which he attributes to acrid bile, violent cathartics, and corrosive substances.

5. Tabes *scrophulosa*. This species comprehends all cases in which diseased glands occasion atrophy. It takes in therefore the *tabes glandularis*, *tabes mesenterica*, *atrophia infantilis*, with the *atrophia rachitica* of Sauvage, and the tabes, to which inebriates are subject from schirrous glands, whether of the liver, spleen, pancreas, or mesentery, and from tubercles seated in the lungs.

6. Tabes *inanitorum* occasioned by profuse evacuations. This includes the *atrophia a sanguifluxu; atrophia a leucorrhœa; atrophia ab alvi fluxu*; *atrophia a ptyalismo*, *tabes ulcerosa*, *tabes sudatoria*, *tabes nutricum*, *et tabes dorsalis* of Sauvage, of which the last is perhaps the most deplorable of all diseases. I have met with two cases of it, and hope I shall never be witness to a third. It is the scourge of unrestrained libidinous desire, and renders life a most intolerable burthen. The wretched victim to his own imprudence is tormented from head to foot with pain, burnt up with hectic, wasted to a skeleton, and racked in every joint with spasms. His limbs tremble; he has a loathing for his food; his sight gradually

gradually fails him, and he becomes at last quite blind. He is conscious that he brings all this evil on himself; yet his desires increase, and he feels that he has not power to restrain them. The night brings him no relief; he sleeps, but his desires are awake; he dreams of happiness, but he awakes to misery; and it is in death only that he can hope for rest; yet such is the gloom which hangs heavy on his mind, that he is haunted incessantly with terrors, and is afraid to die.

7. Tabes *senilis*. This must not be confounded with the *atrophia senilis* of Sauvage, because that has merely emaciation and debility, but is free from hectic. The disease in question is the *marasmus senum* of Hoffman, and is described by him as a common and fatal *hectic* of old age. The body wastes, appetite decays, the strength is gradually consumed, all the bones are visible through the parched and rigid skin; the vital heat forsakes the circumference of the body, and is collected in the centre; the pulse is hard and frequent, respiration labours, the voice is hoarse, the tongue is dry, sleep is deficient in quantity and not refreshing, costiveness prevails, and at the end of six months the patient dies.

SECTION V.

Of the Indications of Cure in Tabes.

These will vary according to the species, yet in general we may observe with Dr. Cullen, that when tabes is purely symptomatic, the cure must be that of the primary disease; but when it is idiopathic, it will in some cases be sufficient to remove the remote causes, which, after what has been delivered, can scarcely escape our notice.

It is obvious that in *tabes famelicorum* attention must be paid to the nutriment, yet with this caution, that in point of quantity and quality united it must not be rapidly changed from bad to better. The reason for this caution has been sufficiently explained at the commencement of this work. The change therefore must be gradual, and the most nutritive aliment must have the preference, because

because the load will be the less on the weakened organs of digestion.

Of tabes *dyspeptica*, tabes *hypochondriaca*, and tabes *scrophulosa*, I need only say, that what has been delivered, either in this work or by the best medical authors on these diseases, must be consulted.

In tabes *venenata* the directions of Professor HOFFMAN are excellent. Avoid, says he, every thing acid, saline, and stimulant, with such articles of diet as readily ferment. Take the food that is most easy of digestion; and for medicine be contented with demulcents, the milder tonics, and the most gentle of the vegetable astringents. There may be a decoction either of sassafras and cascarilla, or of chamomile flowers and the summits of milfoil in milk: good broth with althæa root and rice; and gum tragacanth dissolved in mint water. Clysters, if required, may be made of milk with yolk of egg, turpentine, honey, and syrup of althæa; and in case of spasmodic pain in the bowels he recommends his antispasmodic pills, composed of the extracts of chamomile, milfoil, and saffron, with castor and oil of nutmegs.

Tabes *inanitorum* requires particular attention to prevent the profuse evacuation, whatever it may be, whether by *hæmorrhage*, *diarrhœa*, *diabetes*, *menorrhagia alba*, or seminal; in all which cases the primary disease must be consulted.

In cases of immoderate salivation, brought on by mercury, the ingenious Dr. GARNET of Harrogate gives *kali sulphuratum*, which never fails to abate the evacuation in 24, or at most in 48 hours. For this effect he very judiciously accounts by supposing, that on the decomposition of water, in which the medecine is given, by the kali sulphuratum, sulphurated hydrogen gas is produced and conveyed into the blood, where the hydrogen unites with the oxygen of the acid menstruum of the mercury, and forms water; whilst the sulphur converts the mercury into an ethiops, which is very inert.

Should a nurse prove unequal to the drain of milk made by her tender charge, no medicine will relieve her from the distressing symptoms, till she has weaned the infant.

faint. How many, from a fond and foolish affection, have given suck to a lusty child for months after it has been upon its legs! and how many, from the pressure of distress and poverty, have undertaken to rear two sucklings, when from poverty they have not had milk enough for one! In this case nothing effectual can be done till she has removed the occasional cause of the disease. The same may be said of any other drain which nature is unable to support.

Tabes senilis, were it considered merely as the consequence of increasing years, or of decrepitude, would call for patience and resignation, not for medicines. But this is not the light in which it must be viewed. As a disease, it requires medical assistance, and Hoffman, to whom we are indebted for an accurate enumeration of its symptoms, has given us directions for its cure. For this purpose he recommends temperance, exercise, and diluents, with ass's milk and gentle laxatives.

In every species of tabes, attention must be paid to the alimentary canal, and if the first passages are loaded, they must be cleared by emetics, after which, generally speaking, myrrh and steel may be exhibited in the manner practised by Dr. GRIFFITH in hectic, and as mentioned in hysteria.

Or,

From three to ten grains of steel filings may be given three times a day, in conserve of roses, with a few grains of aromatic powder.

Or,

℞. G. Myrrh, dr. 1. Tinct. Cort. Peruv. unc. 1. Solve terendo et adde Aq. unc. 8. Sal. Martis, scr. 1. Salis Nitri, scr. 1½. Syr. Bals. dr. 6. M. c. c. unc. 2. bis die.

That is,

Take myrrh one dram; tincture of the bark an ounce; grind it in a mortar, and add eight ounces of water; salt of steel a scruple; nitre half a dram; balsamic syrup six drams. Mix and take two ounces twice a day.

The various preparations of milk, mentioned in the beginning of my work, are excellent, and may in some measure prove a substitute for *koumiss* the celebrated invention of the Tartars.

To

To make *koumiss*, they put new mare's milk in a wooden vessel, with one sixth of water, and one eighth of sour cow's milk. This they cover with a thick cloth and keep it moderately warm for 24 hours; then with a churn staff they beat it till the whole is intimately blended. At the end of 24 hours more they pour it into a narrow vessel, and churn it till it is perfectly and uniformly mixed. In a close vessel, if not exposed to heat, it keeps three months.

Dr. GRIEVE, to whom we are indebted for this information, assures us, that koumiss proves a wonderful restorative in *hectic atrophy*, that is, in *tabes*, and he recommends six quarts of it to be taken every day.

Horse exercise is strictly to be enjoined in all cases in which either the glands are obstructed, or the stomach is relaxed, and therefore more particularly in species 2, 3, 5, and 6. SYDENHAM, whose high expectations from horse exercise has been already stated, ventures to affirm, that riding for hectic is equal in efficacy to mercury for syphilis, and the Peruvian bark for intermittents. And MORTON, than whom no one ever wrote better on hectic atrophy, strongly recommends the same practice to excite moderate perspiration, to strengthen the digestive organs, and to shake off the tough and viscid mucus obstructing the absorbents of the stomach, and of the small intestines, *ex ventriculi et intestinorum saburrâ acidâ, lentâ simul et viscidâ, meatus obstruente, &c.* p. 26.

Class III. CACHEXIÆ.

Order II. INTUMESCENTIÆ.

Distinguished by General Swellings.

IN this order we have thirteen genera; polysarcia, pneumatosis, tympanites, physometra, anasarca, hydrocephalus, hydrorachitis, hydrothorax, ascites, hydrometra, hydrocele, physconia, rachitis.

Genus LXIII. POLYSARCIA.

Obesity.

FROM what has been delivered on nutrition and emaciation, under the preceding genus, the nature and the cure

cure of obesity may be clearly understood. It has been universally observed, that people who eat heartily of animal food, and drink freely, more especially of strong beer, who take little exercise, and by sleep give long respites to the fatigue of thought, usually accumulate a great quantity of fat, and upon these principles poultry, pigs, and oxen are fatted for the market.

For the cure of this disease no medicines must be had recourse to, because no remedy is to be expected but from temperance, a vegetable diet, pure air, exercise, and early rising. A young gentleman having applied to BOERHAAVE for his advice, when oppressed by corpulency, was ordered to keep his eyes always open, and his mouth always shut.

It has been common for young people, when apprehensive of being corpulent, to drink *vinegar*. By this practice they have indeed obtained their end; but they have destroyed their health. At this effect we cannot be surprised, because they invert the order of nature, by making the stomach supply that oxygen which should have been transmitted by the lungs. The more rational practice, most undoubtedly, is to limit the quantity of hydrogen received into the stomach, and to increase the quantity of oxygen respired, that is, with little nutriment to take much exercise, and that in the purest air. It is by such means that the Newmarket jockies reduce themselves to a standard weight, and by such means monsters for bulk have, with perfect safety, brought themselves to a reasonable size.

The subject of obesity has been ingeniously treated on by Dr. BEDDOES; and my friend Dr. THORNTON has observed, that when fat people inhale *superoxygenated air*, they eat less, grow thinner, and yet find no deficiency of strength.

Genus LXIV. PNEUMATOSIS.

AN elastic swelling of the body, crepitating under the touch.

It is caused by air in the cellular texture, which communicating

municating over the body, by its expansion renders the skin tense and elastic, as may be seen when butchers introduce it to make their meat look plump.

When the weight of the atmosphere is taken off from animals, as in the exhausted receiver, this effect is speedily produced; but no sooner is the equilibrium restored between the external and internal pressure, than the animal returns to his accustomed size.

Dr. CULLEN has four species of pneumatosis:

Pneumatosis *spontanea*, without manifest cause.
traumatica, from wounds in the thorax.
venenata, from poison.
hysterica, from hysteric affection.

In case of wounds and violence we can easily account for this effect. Thus, in the soldier mentioned by SAUVAGE, who fell into the hands of a banditti, we see him wounded in the groin, and a tube thrust by these wretches into the wound; and, from the communication of the cellular texture, we readily comprehend, how the air forced into one part extended over the whole body excepting his hands and feet. Nor do we find more difficulty when we are to explain, how the same effect is produced by wounds in the thorax, whether by a sword, or by a fractured rib. But all the other species of pneumatosis are exceedingly perplexing. I shall therefore be satisfied with stating facts, without attempting to account for them.

Pneumatosis has frequently happened in consequence of fever. SAUVAGE makes mention of a boy aged only eighteen months, whose body was suddenly inflated, and whose brother died of the same disease. This boy was cured by copious evacuations both by urine and by stool. He saw likewise a surgeon, who, after a protracted intermittent, swelled universally, in some parts dropsically; but in his face, breast, hands, and thighs, the swelling was elastic. After this patient had for two years sought relief in vain, he was suddenly restored to perfect health by electricity. Baron HALLER has collected many instances of pneumatosis occasioned by gangrene, small

pox,

pox, rickets, hysteria, scurvy, and even by the suppression of the lochia, and in oxen particularly by dysentery.

SYDENHAM considers *pneumatosis* as a common symptom of hysteric affection. His description is accurately just. He observes, this disease attacks almost every part internal and external; it seizes on the muscles and occupies the jaws, the shoulders, the hands, the thighs, but particularly the legs and ancles, sometimes with pain, at other times with swellings; the latter is the most remarkable, because it neither increases towards the evening, nor pits like dropsy, but is elastic and greatest in the morning. It generally affects one leg more than the other. Yet the resemblance deceives the patient, and he is firmly persuaded that it is hydropic. RAULIN remarks, that this species of pneumatosis alternates sometimes with diabetes, that is, I suppose, with a copious discharge of hysteric water.

I had a patient in whom this symptom of hysteria very frequently appeared, and continued for some days; but whether she had pain and swelling, or only swelling, she never failed to be instantly relieved whenever either spontaneously, or by the assistance of an emetic, she brought up a quantity of viscid mucus from the stomach. I have been so often a witness of this effect, that I can have no doubt of the accuracy of the observation.

Poisons, according to some naturalists and medical practitioners, produce elastic swellings of the whole body, as an example of which, Linnæus mentions persons who have been bitten by the serpent *asping*, and Willis on tympanites refers to other poisons.

As to the indications of cure, it must be confessed that scarifications, compresses, and in some cases the paracentesis, are the only remedies on which we can rely. When pneumatic chemistry shall have made a progress in the world, and when philosophic practitioners are able to explain how poisons produce their wonderful effect, we may then hope to cure without the assistance of a surgeon. Vide MEDICAL EXTRACTS, by Dr. Thornton.

Genus

Genus LXV. Tympanites.

The symptoms are elastic distension of the abdomen, not readily yielding to pressure, and sounding like a drum, with costiveness and emaciation, but no fluctuation.

In the beginning we observe flatulence and borborygmi, that is, hollow rumbling of the bowels. Thirst and loss of appetite, pain in the loins, and dispnœa, with frequency of pulse, succeed, and atrophy brings up the rear.

Dr. Cullen has two species; tympanites *intestinalis*, and tympanites *abdominalis*; but I shall confine my observations to the former, because the latter is a species of pneumatosis. The persons most liable to this disease are chiefly those of a relaxed and irritable habit, such as have been debilitated by profuse evacuations, by intermittents, or by typhus fever, patients who have recently suffered by spasmodic and inflammatory affections of the bowels, and particularly women after childbirth.

It is occasioned sometimes by *ascites* and morbid affections of the liver; at other times by biliary or renal calculi; frequently by worms; and in one most curious case, reported by Van Swieten, it arose from hæmorrhagic effort after suppression of the catamenia, and of the hæmorrhoidal flux.

It may likewise be induced by poisons, when they occasion flatulence and spasmodic constriction in the bowels.

From what has been said, we cannot be at a loss for the proximate cause of this disease. There is evidently a preternatural distension of the intestines by air, producing loss of tone in ths muscular fibres of the part distended, and, from what has been suggested on the process of digestion, it must appear, that the extrication of this air, or gas, in the stomach or the bowels, is to be attributed to some defect either in quantity or quality of the several fluids, the saliva, pancreatic juice, and bile, which are mixed with our aliment to assist in the reduction of it into chyle, and to restrain the progress of fermentation in the fæces, whilst they are passing the intestines. But this alone cannot be the proximate cause of tympanites; for with this must be united spasmodic stricture in some part

of

of the intestines, which prevents the escape of wind, and this spasmodic stricture must be occasioned by some irritation in the system.

This view of the proximate cause is confirmed by anatomical observations, particularly by those of PLATERUS, LITTRE, and DE HAEN. These celebrated physiologists discovered the colon distended to the size of a man's thigh, and the stomach with small intestines three times their usual bulk. These distensions were observed in different parts of the alimentary canal, sometimes in the stomach, at other times in portions either of the large or of the small intestines forming constricted cells, and sometimes in all of them together. With air, they discovered likewise an amazing quantity of hardened fæces. We cannot therefore entertain a doubt as to the nature of this disease. HEISTER, in his extensive practice during the space of six and forty years, never found air as the cause of tympanites in the cavity of the abdomen, till RUYSCH shewed him one case in which that cause was evident.

From this view of the disease in question, supposing it to be just, there can be no doubt that Dr. Cullen should have classed it among the neuroses with spasmodic affection: but it appears to have been attracted here by dropsy, with which it is frequently combined.

Agreeable to this idea of the proximate cause, the indications of cure must be,

1. To relieve the spasm.
2. To restore the tone of the intestines.

These intentions may be answered by opiates, bitters, bark, and steel, with aromatics: but as in some cases, either worms, acrid bile, or viscid mucus, which is the *materia verminosa* of SAUVAGE, may contribute to the support of the disease; these must be evacuated, and the best medicines for this purpose are, calomel, rhubarb, senna, squills, soluble tartar, and the fossil alkali, which last may be made into pills with soap. Carminative clysters must be frequently injected. For BOERHAAVE very judiciously remarks, if the bowels are cleansed before

fore they have lost their tone by excessive distension, the disease is cured.

The cathartic may be calomel from two to five grains at night, to be carried off in the morning by rhubarb and soluble tartar, of each fifteen grains, with ten grains of either ginger or aromatic powder, made into a bolus with syrup of orange peel. Or at the commencement might not castor oil (ol. ricini) be tried with a probability of success?

For the opiate we may take either of the following, as occasion may require, to be repeated every night.

℞ Aq. Menth. un. 1. Sp. Ammon. c gtt 20. Tinct. Opii, gtt. 15. ad gtt. 30. Sach. Alb. dr. 1. M. f. H. h s. s.

℞ Aq. Menth. un. 1. Acet. Scillæ, dr. 1. Tinct. Opii, gtt. 15—30. M. f. h. h. s. s.

Twenty drops of vitriolic tartar may be added to the opiate.

The astringent may be,

℞ Cinchon. Rad. Calam. Aromat. aa. un. ½. Ferri Vitriolat. dr. 1. Cons. Ros. un. 1. Syr. Cort. Aurant. q. s. M. f. Elect. c. c. M. N. M. bis die.

We find a practice recommended by Sauvage which merits attention on account of its singular effects in the cases in which it has been tried.

That is, to foment with water, just above the freezing point, at the same time giving ice internally to condense the gas, or absorb it if it be fixed air, and he particularly states, that in the species of tympanites, which he denominates *spasmodic*, this practice perfected a cure, with this remarkable circumstance, that in both the cases specified a bilious diarrhœa, producing an abundant discharge of flatulence, was ultimately the means of removing the disease. This effect is rendered the more striking by what he adds respecting the practice of HIPPOCRATES, *triginta, urceos aquæ frigidæ effundi jussit supra corpus mulieris robustæ, quæ a sumpto medicamine ventre intumuerat cum dolore, dyspnœa, animi consternatione, hinc vomitu ex aquâ frigidâ nec dolor nec dyspnœa remiserant, quinquies mortua visa fuerat; hac affusione frigidæ sublevata est, bilem copiosam dein ejecit, et vixit.*

Here we have the same appearance of bile, as the stimulating cause of this spasmodic affection in the alimentary canal.

HOFFMAN

Hoffman has left us some valuable cases of tympanites.

The first occasioned by worms, and cured by anthelmintics, by tansy, wormseed, gum ammoniac, aloes, rhubarb, and calomel.

The second, occasioned by indolence, improper food, and an ill cured intermittent. This was cured by carminative clysters, by moderate aperients, and by gentle tonics, which last were composed of balsam of amber, orange peel, zedoary, and Hoffman's anodyne, in equal parts.

The third, occasioned by *menorrhagia alba* being suddenly stopped by means of alum locally applied, and cured by moderate aperients, balsamic pills, and by what he calls his visceral elixir, continued for four days. After which period for four days, she sat every evening one hour in a decoction of the aromatic herbs with laurel and juniper berries. By this process the young lady discharged from the uterus a great quantity of glutinous and viscid matter, the flatulent symptoms were removed, and she was restored to health. Galen reports a case similar to this, and many such have been recorded.

The fourth was merely distension of the cæcum in a young man of a phlegmatic habit, of a sedentary life, and accustomed to a gross diet. He was cured by gentle evacuants, carminatives, and tonics, as in the two preceding cases, with the assistance of a plaister to the side affected. This was made with Venice turpentine, Mastich wax, and Peruvian balsam ; and was renewed twice a week.

The next case was of a clergyman in Holland, aged 30, exceedingly studious, sedentary, and accustomed to a gross diet, that is, to dried flesh, fish, legumina, milk, and tea. This patient, at the end of three years intense application, became pale, emaciated, tympanitic, and ascitic. Hoffman being consulted, put him upon a generous regimen ; made him take exercise ; and, *to cleanse the first passages from viscid mucus, which he considered as the occasional cause of flatulence*, he ordered a mineral water,

water, and twice a week gave balsamic and cathartic pills.

In the Edinburgh Medical Observations we have a remarkable case, which was cured by restoring the hæmorrhoidal flux; and they who are well acquainted with spasmodic affections, will not be surprised to see what confusion the hæmorrhagic effort creates, when it occurs in weak and irritable habits. Many such instances are produced by Dr. WHYTT, in his incomparable treatise on the diseases of the nerves, and merit the attention of the student, particularly those which appear in his fourth chapter on the retention of accustomed evacuation, such as the menses and hæmorrhoidal flux.

With respect to the *borborygmi*, which usually occur in the salutary termination of this disease, I must remind the student of an axiom of HIPPOCRATES. *Dolores ex hypochondriis et tumores, si recentes sunt, et sine inflammatione, solvit borborygmus in hypochondrio excitatus et maxime exiens cum stercore, urina et flatu*, because these demonstrate that the spasm has been relieved.

Genus LXVI. PHYSOMETRA.

A permanent elastic swelling in the hypogastrium, arising from flatulent distension of the womb.

This frequently deceives the barren female with the hope of pregnancy, till nature explains the mystery, and her expectation vanishes in air.

Genus LXVII. ANASARCA.

Universal Dropsy.

SWELLING on the surface of the body, not elastic, but pitting by pressure of the finger, and rising slowly to its former fulness.

It is a preternatural collection of serous fluid in the cellular membrane, immediately under the skin, and usually appears first in the lower extremities towards night, but disperses before the morning. The urine is diminished in quantity. Thirst increases and becomes intense.

Atrophy

Atrophy attends, and all the fat with the oily portion of the marrow is carried off by the absorbents.

SECTION I.

Of the Causes Remote and Proximate of Dropsy.

A preternatural collection of serous fluid, whether in the cellular membrane, or in the cavities of the body, is caused by absorption falling short of exhalation in these cells and cavities; and this effect may be produced either by increased effusion from the exhalant arteries, or from diminished action of the absorbents. But as in dropsy the lymphatics and thoracic duct are much enlarged; it is clear that absorption is increased, although not in proportion to the exhalation, and that therefore the cause of dropsy is in the exhalants.

Increased effusion from the exhalants may arise,

1. From their relaxation, which may be occasioned by fevers, whether typhus or protracted intermittents; by continued grief; by excessive evacuations of any kind; by the several species of intemperance; by indolence and inactivity; or by drinking only stagnant water, as in Holland.

2. From superabundance of serum in the blood, which may be occasioned by all the abovementioned causes; by a penurious diet; by profuse hæmorrhage and repeated venesection; by weakened powers of digestion, defective chylification, and diminished energy of the lacteals; by interruption of the watery excretions, whether of urine, or of perspiration; by jaundice. It might be thought, that the superabundant serum would more readily pass by the kidnies, as aqueous fluids do in healthy subjects, than by the exhalant arteries: but when the stimulus of well *oxygenated blood* is wanting, as we see in pale, languid, and hydropic habits; the kidnies become torpid, their vital action ceases, and the quantity of urine is diminished. This we have seen exemplified in the beautiful experiments of Hales, who produced an artificial dropsy in dogs, by pouring abundance of warm water into their arteries through a tube

of such a height, that the pressure of the column equalled the force of the heart, yet none of the warm water passed through the kidnies.

3. From continued pressure on the veins, as in pregnancy, obstinate flatulence, and schirrous tumors, increasing the determination of blood to the exhalant arteries, in which cases dropsy is merely symptomatic, for when the obstruction is removed the dropsy ceases.

4. From the stimulus of inflammation. A blow on the testicles produces inflammation, of which the consequence may be dropsy of the tunica vaginalis. A child's brain inflames, and hydrocephalus ensues. Pleuritis frequently terminates in hydrothorax, and peritoneal inflammation in ascites. It is in this way that cold water drank by dancers or by reapers, when heated by exercise, produces dropsy. Mr. CRUIKSHANK has often taken away fifty or sixty pints of water from a patient, which had collected in the abdomen, in the few days the peritoneal inflammation lasted, during the usual species of puerperal fever. He very properly remarks, that when the arteries of the part have once got a habit of increasing their secretions, they commonly go on for a long time, or the lymphatics may be so altered by the inflammation, as not to absorb in proportion to the discharge by the exhalants.

The proximate cause therefore of dropsy is not as Sydenham conceives, the serous fluid itself as collected in the cells, but diminished tone in the system, as more accurately stated by Dr. Cullen.

SECTION II.

Of the Indications of Cure in Anasarca.

FROM what has been delivered, it will follow, that our indications of cure may be,

1. *To evacuate the serous fluid already collected.*

2. *To restore tone to the system in general, and thereby to the exhalants in particular.*

I. The first indication may be answered, by either scarification or by punctures, which certainly is the most obvious

obvious and expeditious method of evacuating the distended cells; and, supposing the strength is not much impaired, may be resorted to with safety. But where the constitution is greatly weakened by disease, even punctures are hazardous, and scarification would be dangerous in the extreme. Yet some cases occur in dropsical habits, where from debility no inflammation takes place after scarification, and therefore no mortification, but the wound continues to transmit water for many weeks. Should however the system have sufficient strength to produce inflammation, but not to support vital energy in the wounded part during the succeeding stages, gangrene must be the consequence. If, therefore, it shoud be found necessary to draw off the water, it should be certainly by punctures, and these should not be too near together, that they may have the better chance of healing by the first intention.

The serous fluid, collected in the distended cells, may be evacuated by exciting the absorbents to more vigorous action, which may be accomplished either by means of *frictions* and by *pressure*, or by *consent*.

1. It is well known that *pressure*, if urged beyond the point of ease, sets the absorbents of the part to work for the purpose of removing either the substance pressing, or the part itself when pressed. A less degree of pressure produces thickening, and a greater terminates in ulceration. For this purpose, bandages may be usefully applied, for they not only, as Dr. Cullen well observes, support weak vessels, but certainly promote absorption. *Frictions* are no less efficacious, whether administered by a flesh brush or by the hand; and I remember the case of a gentleman who in two months was perfectly cured of œdematous swellings in his legs, by his daughter's gently stroking them with her hand for many hours every day, from the instep upwards. Muscular exertion likewise has a good effect in preventing stagnation of the fluids.

2. The absorbents may be excited to vigorous action by *consent*. If the emunctories are violently stimulated, whether it be by emetics, cathartics, diuretics, or by diaphoretics, they will copiously pour forth aqueous fluids,

fluids, and the absorbents over the whole system will go to work for the purpose of supplying them abundantly, and assisting them to wash away the offending matters from the body.

For an *emetic* we may give the following in the morning:

℞ Antimon. tartarisat. gr. iv. Merc. Vitriolat gr. v. M. f. Emet. mane sumend

Or, An ounce and a half of antimonial wine, with half an ounce of oyxmel of squills.

SYDENHAM recommends three handsful of the inner bark of elder (sambucus nigra) boiled in a quart of milk and water to one pint. Half a pint of this decoction is to be taken morning and evening every day till the cure is perfected. If this quantity does not both purge and vomit briskly, it is of no use.

For a *cathartic* we may order calomel and rhubarb, calomel and jalap, calomel and squills, elaterium, scammony, gamboge, according to the strength of the patient and the urgency of the case. Or, we may give calomel at night, to be purged off in the morning, either with jalap, or by senna. Or these cathartics may be combined in the subsequent forms.

℞ Calomel ℈ij Rhei. ʒ ij Jalap ℈j. Gambogii ʒj. Syr. Simp. q. s. f. Pill. no. 56. c c. Pil. ij. m. et. v.

Calomel two scruples; rhubarb three drams; jalap one scruple; gamboge a dram; syrup a sufficient quantity to make fifty six pills; of which take two morning and evening.

Or with HOFFMAN we may give manna three ounces, senna and cream of tartar of each two drams, infused in water for one dose.

Sydenham, to delicate people of irritable bowels, gave either an ounce of syrup of buckthorn every morning; or the following:

℞ Rad. Jalap. Hermodactyl. aa ℥ss. Scammon crud. ʒiij. Sennæ ℥ij. Glycyrrhiz. Sem. Anis. Carui, aa ʒss. Sum. Absinth. Fol. Salv. aa m. j.

Infunde frigide in ℔iij Aq. vitæ vulgaris, et coletur tantummodo usûs tempore. Capt. Cochlear. j. h. s. et ij. mane sequenti, augendo vel minuendo dosin pro ratione operationis.

Jalap and hermodactyl of each half an ounce; scammony three drams; senna two ounces; liquorice root, anise, and caraway seeds, of each half an ounce; wormwood tops and sage leaves, of each one handful; common brandy three pints. Infuse and strain

strain it as wanted. Take one spoonful at night and two in the morning.—Hermodactyl is now rejected as inert.

To the more robust he gave the following :

℞ Tamarind. ℥ss. Sennæ ʒij. Rhei. ʒiss. Coq. in q. s. Aq. font. ad. ℥iij. in Colatur. dissolv. Mann. Syr. Rosar. solut. aa ℥j. Syr. é Spin. Cervin. ℥ss. Elect. é Succ. Rosar. ʒij. M. f. H.

Tamarinds half an ounce; senna two drams; rhubarb a dram and a half; boil in water to three ounces and strain. In this dissolve manna and solutive syrup of roses of each one ounce; syrup of buckthorn half an ounce; electuary of rose juice two drams for one dose.

Electuary of rose juice not being found among the officinal preparations of the present day, solutive syrup of roses may supply its place.

The observations of Sydenham respecting the use of cathartics in dropsy merit our attention.

1. In dropsies, when the intention is to evacuate serous fluids, cathartics, which are slow in operation, harass the system to no purpose. To be useful they must be hydragogue and pass the intestines, speedily. If they are too violent, opium will easily restrain them.

2. They must be repeated daily, unles a day of rest is absolutely needful, because by intermissions the water would collect again.

3. When the bowels are not readily moved by mild cathartics, the more violent must not be given alone, but must be added in small quantities to quicken the operation of the former. In considerable doses they deceive our expectations, and excite a tumult in the system.

4. The peculiar habit and constitution of the patient must be consulted, because the same cathartics are not suitable for all.

Sydenham relates of himself, that when he was a young practitioner, having speedily cured his first patient of a dropsy, by syrup of buckthorn, he thought he was possessed of a specific; but, unfortunately persevering too long in the use of this, when in the next case of dropsy it gave no relief, he had the mortification to find himself dismissed by the wealthy dame, who was afterwards cured by a more discreet physician.

Both emetics and cathartics, if drastic, are improper in irritable habits. They weaken the system, and increase the

the proximate cause of the disease. In such constitutions therefore, if serous fluids are to be evacuated, recourse must be had to diuretics.

For *diuretics* we may take our choice out of four orders, according to the nature of the case and constitution of the patient. We have among the *diluents*, water and whey. Among the *stimulants*, garlic, squills, broomtops, juniper, meadow saffron, æther, and cantharides. Among the *refrigerants*, tartar and nitre. And for a *sedative*, the foxglove *(digitalis.)*

SYDENHAM placed his chief dependence on the lixivial salts, which he considered as the most efficacious of all the diuretics. He thought it a matter of indifference from what ashes the vegetable alkali was taken, yet he himself generally ordered the ashes of the broom *(genista)*, which were after his time regarded as a specific, and rendered famous by the cure of mareschal SAXE, when he had been twice tapped. Sydenham commonly ordered a pound of these ashes to be infused in two quarts of Rhenish wine; but cyder is equally as good. Of this filtered solution he gave four ounces three times a day, and found it efficacious in many cases which had been regarded as incurable. This would be much improved by one ounce of iron filings.

HOFFMAN depended principally on squills and nitre. Of the former he speaks in the highest terms of approbation, yet not more than it deserves. His form was this:

℞ Rad. Vincetox. ℈ss. Scillæ, Nitri. aa. gr iij. M. f. Pulv.

The root of the asclepias vincetoxicum ten grains, with squills and nitre of each three grains. This may be taken three times a day, gradually increasing the dose.

Dr. GREGORY, who as a practitioner ranks among the first in Europe, treads nearly in the same steps with Hoffman, and commonly orders two grains of squills, made into a pill with crumbs of bread and gum arabic. To be taken in the morning and at noon.

℞ Pulv. Rad. Scill. gr. 30. Mic Panis Mucil. Gum. Arab. aa. q. s. ut fiant Pill. 15. Quarum capiat j. Mane et Meridie.

With this he gives a mercurial pill every night.

Diuretics may be usefully combined with either *emetics* or *cathartics*, or, which amounts to the same thing, the dose

dose of the *diuretic* may be so increased as to act either as an emetic or cathartic. Sir John Pringle used to give the following:

℞ Jalap gr xv. Nitri. gr. viij. Simul Tritis ad. Rad. Scillæ, recent gr viij—xij. Syr. Simp. q. s. M. f. Bol. m. s. et per biduum repetend. interposito dein uno die repetatur.

Jalap fifteen grains; nitre eight grains; grind these together, and add fresh squills from eight to twelve grains; simple syrup sufficient for a bolus To be taken in the mornings for two days; then, resting a day, repeat.

Dr. WHYTT was very fond of tartarised kali, which he gave in doses of about half an ounce: but Dr. Home increased his doses of tartar from half an ounce as far as two ounces, and then quitted it for some other diuretic.

The physician who has made the most accurate experiments in the cure of dropsy, is Dr. FERRIAR. In his medical histories we find, that of 43 patients, 33 were cured by cream of tartar, whereas out of 29 cases, only 11 were cured by *digitalis*.

Dr. FERRIAR gradually increases his dose of tartar from two drams to twelve, and when this loses its effect, he quickens the operation by a grain or two of gamboge, reducing the tartar to four drams. When the evacuations, by urine and by stool, are profuse, he supports the strength by wine; or if a respite is required, he omits the tartar for a day and interposes tonics. When a change of medicines is required; or when a diarrhœa prevents the exhibition of tartar; he gives digitalis gr. 1—4, with a dose of æther and about twenty drops of laudanum, or calomel and squills may be taken every night in this form.

℞ Pulv. Scill. gr. 3. Calomel gr. 1—4. Sapon. Hispan. gr. 10. Syr. q. s. f. Bol. h. s. s.

Dr. Ferriar very judiciously remarks, that the more brisk the operation of the tartar as a cathartic, the more copious is the flow of urine.

After what has been delivered, it may be thought superfluous to add more respecting diuretics, or of diuretics united with cathartics; but every practitioner is ready to acknowledge, that in protracted cases a change of medicine is frequently required.

Dr.

Dr. Duncan, in his valuable commentaries, transmits the following :

℞ Resin. Jalap. v. o. solut. gr. 10. Sal. Nitri. ℈j. Sal. Succin. vol. gr. 10. Sir. s. Aq. Cinnam, aa. ℥ss. M. m. s. et alternis diebus repet.

Resin of jalap ten grains ; dissolved in yolk of egg ; nitre one scruple ; volatile salt of amber ten grains; simple syrup and cinnamon water, of each half an ounce ; to be taken every morning. This proves a powerful diuretic, when the simple diuretics fail.

To this gentleman we are indebted for introducing to our notice the lactuca scariola, the extract of which Dr. COLLIN of Vienna has given with success, in the dose of from two grains to five, four times a day. This he informs us evacuates from one to twelve pints of urine during the night, and he adds that it is a mild aperient and grateful to the stomach.

Digitalis has been strongly recommended by Dr. WITHERING, who had given it in 163 cases, and in many of them with manifest advantage ; but as in the hands of Dr. Ferriar it claims only eleven cures out of twenty nine cases, in which it was fairly tried, and in the extensive practice of Dr. LETTSOM it never perfected one cure ; we have little reason to expect great things from it in dropsy. Yet as it sinks the pulse in a degree unobserved in any other medicine, I wonder that it never has been tried in *pleuritis*. A constant nausea might be kept up with it for days, and should it prove either emetic or cathartic, no danger could be apprehended from such operation.

Diaphoretics have been sometimes useful, and exercise, promoting perspiration, seldom fails to produce a good effect ; for which reason Hippocrates particularly recommends hard labour. Dampier in his voyages relates, that one of his men having a dropsy, was buried up to the neck in hot sand, which brought on strong sweat and cured him.

Dr. MARRYAT sometimes pursued this plan. He gave opium and ipecacuanha, of each four grains, with vitriolated mercury two grains, and made his patient sleep between the blankets.

Dr. Hugh Smith frequently gave purified opium two grains,

grains, with three or four grains of emetic tartar, to which he occasionally added five grains of camphor, and twenty of gum guaiacum, made into a bolus with common syrup. This certainly is a good composition, and in his practice it was remarkably successful.

II. The second indication may be answered by a generous diet, good air and exercise, with bitter aromatics, bark and steel.

Such is the efficacy of a generous diet, that I have known poor people cured by this alone. In these cases the stimulus of animal food and wine is new, and therefore has the same tonic power on them as bark, steel, and opium, have on the exhausted fibres of the rich.

Nothing, however, contributes more to vital energy, or more powerfully excites to action, the whole of the absorbent system, than pure air with exercise.

Yet medicines are not to be neglected. For when the serous fluids are evacuated, we must hasten by every means to invigorate the system, or they will soon collect again. Sydenham, as a tonic, recommended a diet drink of bitter and aromatic herbs infused in either strong ale or wine. These were horse radish, worm wood, garden scurvy grass, sage, lesser centaury, and broom tops. To them he sometimes added nutmeg and orange peel. The same intention may be answered by the following, or by something similar.

℞ Rad. Columb. dr. 4. Quassiæ. Cassiæ lig. aa dr. 1. Aq. fervent. lib. 1. Macera per noctem et Cola. Colaturæ, adde Ess. Lignor. dr. 4. f. M. c. c. un. 4. bis vel ter in die.

Our principal dependence must be on *steel*, as the most powerful of tonics. This Sydenham, this Boerhaave, Hoffman, and all subsequent professors, have uniformly recommended in the strongest terms for dropsical complaints; and with this Peruvian bark may be profitably joined. Boerhaave combined them in this form:

℞ Limat. Ferri. Cinchon. Cort. Winteran. aa. ℥ ij. Rhei exsic. dr. 4. Vin. Rhenani generosissimi ℔ 4. f. Infus. c. c. ℥ij. ter in die.

Iron filings, Peruvian bark, Winter's bark, of each two ounces; strong Rhenish wine, two pints. Take two ounces of this infusion three times a day.

If the form of an electuary is preferred, we may substitute the following:

℞. Cinchon. ℥j. Limat. ferri. ℈iv. Mucil. Gum. Arab. q. s. f. Elect. c. c. m. N. M. bis in die.

Peruvian bark one ounce; iron filings four scruples; mucilage of gum arabic, sufficient to make an electuary. Take the size of a nutmeg twice a day.

One observation more will conclude what I had to say of dropsy. It has been usual to limit the quantity of drink, and sometimes a total abstinence has been required by those, who, with Sydenham, considered the collection of watery fluids as the proximate cause of this disease; but such restraint is not agreeable to reason, nor is it warranted by careful observation. Nature pleads powerfully for diluting liquids, and many cases have been produced of dropsy cured by gratifying this importunate desire, whilst no instances appear of injury received by moderate indulgence. Even Hoffman, although he forbade his patients to satiate their thirst, yet, particularly orders that all diuretics shall be plentifully diluted either with whey, with parsley water, or with old hock.

It must be acknowledged, that a total abstinence from liquids sets the absorbents to work, and thus it was, that the two ascitic patients, mentioned by Dr. Mead, were cured. But then it must be considered, that the serous fluids collected in dropsical cases become frequently so viscid and tenacious as to flow out with difficulty, when the patient has been tapped. In such cases, therefore, plenty of diluting liquids must expedite the cure. Thus it was with him whose case Sir John Floyer has reported. This man, when given over by his physicians, having obtained leave to quench his thirst, was, at the end of five or six hours, satisfied that he had drank enough. A cold sweat came over him, and his friends laid him in bed for dead. But in the space of half an hour his urine began to flow, and flowed incessantly till he had evacuated one half of what he drank. He opened his eyes and called for wine, drank it and went to sleep again. But whilst he slept, the flux of urine was incessant; he had a copious perspiration, and a discharge of aqueous fluid from the rectum. In less than a week this man, drinking freely, was, without any other medicine, restored to health.

Genus

Genus LXVIII. Hydrocephalus externus.

Distinguished by an external swelling of the head, soft, and not elastic. It is the disease of infants.

As the water is collected between the skull and its integuments, the cure is obvious, for it may be easily performed, either by puncture, by scarification, or by caustics.

Hydrocephalus internus, although, in deference to the authority of my venerable master, already included in the class of *neuroses*, belongs rather to the *cachexiæ*. My reasons for this opinion are the following:

1. Because the disease consists of a preternatural collection of serous fluids in the ventricles of the brain, produced by disproportionate action between the exhalants and absorbents. Therefore, whether it arise from excess of exhalation or from deficient absorption, it is certainly an affection of the lymphatic system.

2. Because the lassitude, pain in the head, drowsiness, and dilated pupils, which characterise hydrocephalus internus, although nervous affections, are not the disease itself, but merely symptoms.

3. Because this disease is cured by medicines which are commonly resorted to in the cachexiæ, and not in the neuroses.

Genus LXIX. Hydrorachitis.

A dropsical tumour in new born infants, commonly on the lumbar vertebræ, soft, small, and with a dilitation of the vertebra.

It is not however absolutely confined to the lumbar vertebræ, for it has been found both in the dorsal vertebræ, and in the sacrum.

The lymph in this tumour is derived from the fourth ventricle of the brain, where it constituted *hydrocephalus internus*, and from thence descending between the tunica arachnoides and the vagina of the spinal marrow, which is a prolongation of the dura mater, it distends this membrane, and with it penetrates the vertebra. This in new born infants is not difficult, because the annular part is composed

composed of two distinct bones united posteriorly by a ligament. From this effect, Ruysch, after the Arabians, calls the disease in question *spina bifida*; but Morgagni, with greater propriety, has named it, from two Greek expressions implying water in the spine, *hydrorachitis*.

This dreadful disease has hitherto eluded all the resources of art, for in vain the medicines used in dropsy have been resorted to, and to puncture the tumour is inevitable death. Hence it is, that infants attacked by it, whether before or soon after their birth, soon come to the period of their existence.

Yet, amidst multitudes who have lived for a few days only in this terrible disease, my friend M. GIMBERNAT attended one, a lovely youth, who completed his fifteenth year before he died. The tumour which was on the superior part of the sacrum, was at his birth no bigger than a hazel nut, but by degrees it grew to the size of a hen's egg, when it became difficult to avoid compression. At this period he was brought to Mr. Gimbernat, who observing that when the tumour was compressed, whether by accident or by design, the boy first complained of head ach, then felt vertigo, after that became *lethargic*, and so continued till the pressure was removed; he contrived an instrument, which at once protected the tumour from external injury, and by means of a spring made such pressure on the part as the boy was able to bear without either pain or lethargy. The design of this pressure was, to promote absorption, which effect it produced to such a degree, that the tumour decreased in size, and the fixed pain in the centre of his head, of which he before complained, had left him.

Thus relieved, the boy neglected to call from time to time upon his surgeon till the leather covering of the instrument was worn out, and the iron circle had ulcerated the tumour; in consequence of which the lymph was suddenly discharged.

M. GIMBERNAT and his son, from whom I have this relation, were instantly called in. They found him senseless, with a very quick pulse, and violent convulsions, particularly in his lower extremities. They observed likewise,

likewise, that a very considerable quantity of a limpid fluid, exceedingly saline, had been discharged, and was then flowing to a most astonishing degree.

They applied strong sticking plaster to the opening of the tumour, and no sooner was the communication with the external air cut off, than the patient began gradually to regain his senses; but the convulsions, chiefly of the lower extremities, still continued, and he complained incessantly of excrutiating pain in the interior of his head.

In a few hours the quantity of lymph collected in the tumour was so great, that the sticking plaster, although assisted by fomentations with calcined alum, was carried off.

No sooner was the communication renewed between the atmospheric air and the brain through the vertebral canal, than *lethargy* returned and continued, till fresh plasters were applied, when, as before, the excrutiating pain in the interior of his head produced incessant lamentation, till at the end of two days he died.

On dissection, the bones of the head, by a preternatural accumulation of blood, were found livid and much discoloured: the dura and pia mater were much inflamed, and the fourth ventricle was so much dilated as easily to admit the introduction of the thumb, but the other ventricles were in their natural condition.

The tumour was situated on the posterior part of the sacrum, through an opening which arose from defect of ossification, and its cavity communicated with the fourth ventricle through the vertebral canal.

All these parts are to be seen in M. Gimbernat's museum.

From this beautiful case we may see clearly the nature of the disease in question, and the means by which we may attempt the cure with some prospect of success. These are the exhibition of such medicines as are usually recommended in simple cases of hydrocephalus internus and external pressure, gradually and most cautiously produced with a view of exciting the absorbents to more vigorous action. If these fail to reduce the tumour, the case is desperate, and admits of no relief.

Genus

Genus LXX. Hydrothorax.

Dropsy in the Chest.

The symptoms are difficulty of breathing, paleness of face, œdematous swelling of the feet, scarcity of urine, impatience of an horizontal position, sudden starting from sleep with palpitation, fluctuation of water in the chest.

Sometimes there is cough, numbness in the arms, intermitting pulse, thirst, and feverishness.

This collection of serous fluids may be either in the cavities of the thorax, in the pericardium, in the cellular texture of the lungs, which surrounds the bronchiæ, or in all of these at the same time, but between these several cases the discriminating symptoms have not been ascertained.

It acknowledges the same causes with anasarca; but the most usual source, from which it is derived, is the sudden application of cold when the body has been much heated by muscular exertion. Hence it is that reapers, hence that young people after dancing, if they drink freely of cold lemonade or water, are apt to bring on a dropsy of the chest. Boerhaave particularly states, that in Holland, where the wherries, when the bell rings, are punctual in their departure to a moment, passengers who arrive too late, frequently run to overtake the boat, heat themselves exceedingly, and, bathed in sweat, enter the vessel, where they take their seat, exposed for hours to the stroke of the cold winter's blast. The consequence of this indiscretion, he remarks, is most often asthma, which terminates in dropsy of the chest.

The indications of cure are the same as for *anasarca*. Dr. Ferriar informs us, that among his 43 hydropic patients, of whom he cured 33 with cream of tartar, some had *hydrothorax*. There can be no doubt, that if the absorbents are excited to vigorous action by consent, and if the tone of the system is restored, hydrothorax, like every other species of dropsy, may be effectually relieved. This therefore should be attempted first. And, when we call

call to mind the experiments of Dr. Musgrave, already mentioned and recorded in the Philosophical Transactions for 1683, we can have no reason to despair. Should however medicines fail, we may safely have recourse to tapping; and the paracentesis, although it cannot remove the cause of this disease, may at least procure a respite, and give both nature and the physician time to exert new efforts. This operation, recommended by Hippocrates, although not infallible, is frequently attended with success. The inhalation of *vital air* has been found of the greatest service in this disease.

Genus LXXI. Ascites.

Dropsical Swelling of the Abdomen.

The swelling is tense, scarcely elastic, but fluctuating. When considerable it has thirst, scarcity of urine, and some degree of fever.

SECTION I.

Of the Causes of Ascites.

It has the same causes, both proximate and remote, with anasarca; but the most usual source from which it is derived, is morbid affection of the liver, occasioned either by the sudden application of cold, when the body has been heated, as I remarked in hydrothorax; by indolence and a sedentary life; by the abuse of acids; by the unseasonable exhibition of powerful astringents in hæmorrhages and intermittent fevers, or by hard drinking. In cases of ascites, it is not uncommon to observe the spleen, the pancreas, and the mesenteric glands, as well as the liver, enlarged and scirrhous; but in the opinion of Hoffman, the former are affected merely by consent with the latter, which is the viscus first injured by intemperance.

Sauvage has no less than 29 species of ascites, which Dr. Cullen has very properly reduced to two, ascites *abdominalis* and ascites *saccatus*.

1. Ascites

1. Ascites *abdominalis* with uniform swelling of the abdomen and evident fluctuation, preceded commonly by symptoms of relaxation and debility.

2. Ascites *saccatus* with swelling of the abdomen, at first partial, and less evident fluctuation, not preceded by paleness, restlessness, loss of appetite, or other symptoms of relaxation and debility, nor attended by either much thirst or pausity of urine. It is considered as incurable in this species; the sack is generally formed by a collection of *hydatides*.

Hydatides are membranaceous bags, not organic, but soluble in boiling water. They are produced by the *tænia hydatigena* for its habitation, and each vesicle is filled with lymph. Van Swieten, Comment. § 112, § 1226.

SECTION II.

Of the Indications of Cure in Ascites.

The indications of cure in *ascites abdominalis* are the same as for *anasarca*.

In this disease the Batavian Hippocrates, treading in the footsteps of our Sydenham, more particularly recommends *emetics*, to shake the whole frame, to open obstructed vessels, to render their contents more fluid, and to prevent stagnation. *Per vomitus solvuntur cuncta tenacia, concutiuntur obstructa, expelluntur stagnantia, unde mirabiliter in hoc morbo prosunt*, § 1244. He adds, they must be strong, and often repeated at short intervals. With this view Sydenham gave crocus metallorum; but any other antimonial calx, in sufficient quantity, is equally as good.

Yet in either debilitated or very irritable habits he, with the greatest propriety, forbids the use of drastic evacuants, and recommends tonics with gentle diuretics. Hoffman agrees with him in sentiments.

No advice can be more judicious, than that of the late Dr. Fothergill. Strong purgatives, says he, weaken and destroy the tone of the absorbent system. Squills, alkalines, neutral salts, and terebinthinate balsams, should be

be first tried; then, if need be, tap, and after that give squills, chalybeates, bitters, with exercise and a generous diet. Under this management he pleads for early tapping. In this he perfectly agrees with BOERHAAVE, who in recent cases of ascites says *statim instituenda paracentesis*. It sometimes happens, that nature, without the assistance of art, takes this method to relieve herself. SCHENKIUS in his medical observations produces many examples of such an effort, by which the navel gave an outlet to the waters, and thus perfected a cure. Other instances are related by Benevoli and Forestus. But the most curious case is reported by Dr. Mead, in his Monita Medica. The Doctor, who had seen one lady tapped sixty times before she sunk into the arms of death, was consulted by another, whom, as being in a state of extreme debility, he was afraid to tap. She was so big, that he pronounced her case incurable; yet nature came to her relief, and made two perforations near the navel, by the first of which she passed twelve pounds of water, and by the second, the next day, six pounds more. The cure was perfected, and nature healed the wounds.

This process is beautifully explained by JOHN HUNTER in his inestimable treatise on inflammation, wherein he shews that, according to an established law of the animal economy, such apertures are produced by the absorbents, when they are drawn into action by the stimulus of pressure.

It sometimes happens, that instead of water in the cavity of the abdomen, there is only a gelatinous matter. In this case the paracentesis gives no relief, because it comes too late, and the only resource is in emetics, which by agitation and concussion wash away tenacious lymph from the mouths of the absorbents, and powerfully, as already stated, increase their action by consent.

SECTION III.

Cases of Ascites.

Sydenham has left the record of a most interesting case, which exhibits to our view the wonderful operation of emetics.

A poor woman, aged 55, being shut up three years in prison, after she had suffered much by a protracted intermittent, and being exposed to cold, became ascitic to such a degree, that her belly was bigger than Sydenham had ever seen. In this situation he began with antimonial emetics, which he repeated every morning for three days, then every other day till she had taken six emetics. When she began this course, her urine was totally suppressed, but increased gradually in proportion to the number of emetics, and towards the conclusion of this process water flowed freely by every outlet of the body. In fourteen days she measured three feet less than she had done before, and could lie down in bed to sleep without fear of suffocation. When he thought it no longer safe to harass her stomach with emetics, he proceeded with cathartics in proportion to her strength. And here he had occasion to observe, that even on the days of respite, when she took no cathartic, she sometimes evacuated a great quantity of water by stool, and towards the close, by the urinary ducts, even to the quantity of a gallon, although he allowed her only two pints a day, so that all the passages were open. But what is still more remarkable is, that the menstrual flux, which had disappeared for many years, returned and flowed abundantly.

The consequence of all these evacuations was *hysteria* with *tympanites*, and *tussis ferina*: but all distressing symptoms were effectually relieved by resting from cathartics, and by syrup of white poppies in the dose of one ounce and an half given every night for four nights.

The following case will be found very interesting:

Sarah Kimber, aged eight years had her belly much distended, and upon pressure there was an evident fluctuation of water. This disorder had subsisted more than two years, and went on constantly increasing, till her physician (Dr. Myres) gave up all hopes of her surviving many days; in this stage of the disease, Dr. THORNTON was consulted. He began with an emetic, and the subsequent day he gave a brisk cathartic of rhubarb with neutral salt. He applied a *tight bandage* of flannel about the abdomen, and ordered the strong mercurial ointment to be rubbed in each evening. He put her upon milk diet, with onion and toasted bread for supper. In a few days the emetic was repeated, and when the mouth became sore, she had for

two

two mornings brisk saline cathartics. He then gave bark and myrrh in port wine twice a day, assisted in their operation by the inhalation of *vital air*. These powerful tonics were accompanied with *swinging* until nausea or sickness was produced, and at night she took half a grain of *opium*. At the end only of ten days the belly was diminished more than one half. After fifteen days, emetics at intervals, with saline cathartics, and the mercurial ointment, were repeated; the opium pill at night, and the tight bandage were still continued. Chalybeates were then thrown in, and the emetics with cathartics were employed at more distant intervals; in consequence of which her complexion assumed the rosy blush of health, and the disease was perfectly removed.

Genus LXXII. Hydrometra.

Dropsy of the Womb.

The symptoms are a swelling in the hypogastrium without suppression of urine or pregnancy, attended with fluctuation, and having some resemblance to the gravid uterus.

To these symptoms Sauvage has added borborygmi, dyspnœa, uncommon fœtor of the stools, obstructed catamenia, pain in the abdomen and the loins, nocturnal pollution, rigor, febrile symptoms, softness and flaccidity of the breasts, and difficulty in either walking or bending the body forwards.

This affection of the womb is sometimes the consequence of abortion, when the placenta is left behind, for this may degenerate into a congeries of hydatides: but the unmarried and the barren are more subject to it than the parturient.

With regard to the treatment, Boerhaave observes, *curabilis laxatione oris uterini per fomenta, vapores, uterina adhibita.* For the fomentation he recommends the aromatic herbs, and as uterine stimulants he mentions the usual emmenagogues, aloes, myrrh, briony, gum ammoniac, sagapenum, opopanax, galbanum, and asa fœtida.

When, instead of the uterus, the ovaries are attacked by dropsy, it is difficult to settle the diagnosis, and the disease is considered as incurable: *difficulter cognoscitur, curatur vero nunquam.* Boerhaave, Aphor. § 1223.

Genus

Genus LXXIII. Hydrocele.

Dropsy of the Scrotum.

A tumour of the scrotum increasing slowly without pain; fluctuating and generally pellucid.

The serous fluids, which cause this tumour, may be contained either in the cellular tunic, as in cases of anasarca; in the hernial sack, produced from the peritonæum, when hernia and either tympanite or ascites have preceded; or in the vaginal tunic of the testicle, which is the most common form of hydrocele.

In the first case the disease may be treated as anasarca. In the second case the tympanites or the ascites must be cured, and then the hernia must be reduced.

In the third case, if recent, Boerhaave and his commentator recommend cathartics, as in anasarca and ascites, or discutient cataplasms and fomentations, for which purpose they propose the following:

℞ Rad. Bryon. Jalap. Fol. Rutæ, Absinth. Cinaræ Hortens. Flor. Melilot. Centaur. Min. Bulb. Cepar. Allior. aa unc. 2. Aq. font. q. s. ut fiat Cataplasma, sub finem, adde Galbani v. o. s. unc. 2. Farin. Lini. unc. 1. Ol. Lini. Sal. Ammon. aa dr. 4. M. f. Cataplasma discutiens testiculis applicandum.

℞ Sapon. Venet. dr. 4. Sp. Vini Theriacal. un. 12. M. pro fomento cum laneis pannis applicando.

℞ Sal. Marin. Decrepit. Siccissimi, Calidi, tenuissime triti, q. s. intra lintea consuta applicetur renovando simul ac maduerit.

℞ Benzoin. Olibani, Sarcocollæ, Resin. Guaiac. aa dr 4. Camphor. dr. ½. Mastich. un. 1. Sal. Ammon. scr. 2. M. f. Pulv. Cujus incensi vapor excipiatur nudo scroto, dein panni lanei fumo hoc vaporosi, calidi, super applicantur.

From long experience I can venture to affirm, that a suspensory truss, so contrived as to press the scrotum closely against the os pubis promotes absorption, and radically cures, without the assistance of the knife. For this purpose, by means of a waistcoat, I suspended the truss from the shoulders, because the girdle *alone* does not sufficiently support it.

But should these applications have been too long neglected, the hydrocele must be tapped. This operation frequently effects a cure, sometimes at the first tapping, often by a repetition. But should this fail, the testicle may

may be laid open, or red wine and water may be injected, which will bring on adhesive inflammation, and the parts will heal.

My respected friend, Mr. GIMBERNAT of Madrid, has a method peculiar to himself, which he assured me, in his extensive practice had never failed to cure with little confinement to the patient. He passes a silver trocar, of the size of a goose quill, through the scrotum, and having withdrawn the perforator, he leaves his perforated canula suspended in the scrotum. When the water is evacuated, he blows in air twice a day, and, leaving it for ten minutes in the scrotum, he then presses it out again. In about ten days the parts unite by the adhesive inflammation, and he removes the canula. The patient is at liberty, all the time required for this operation, to walk about his room.

Genus LXXIV. PHYSCONIA.

TUMOUR occupying the abdomen, increasing slowly, and neither sonorous, nor fluctuating, nor induced by pregnancy.

SAUVAGE enumerates no less than 15 species of physconia, the denomination of which he derived from anatomical inspection, and for which he refers either to his own observations or to those of the most expert pathologists. These are, 1. Physconia *hepatica*. 2. P. *splenica*. 3. P. *renalis*. 4. P. *uterina*. 5. P. *ab ovario*. 6. P. *mesenterica*. 7. P. *intestinalis*. 8. P. *omentalis*. 9. P. *polysplachna*. 10. P. *visceralis*. 11. P. *externa lupialis*. 12. P. externa *scirrhodea*. 13. P. externa *hydatidosa*. 14. P. *ab adipe subcutaneo*. 15. P. *ab excrescenita*.

Of these tumours some were simple, a. *Hydatidosa*. b. *Strumosa*. c. *Scirrhodea*. e. *Sarcomica*. d. *Steatomatosa*. f. *fungosa*, or compound tumours; but unfortunately we have no pathognomonic symptoms to distinguish the species from each other, nor can we ascertain precisely the nature and the seat of the disorder, till these circumstances are discovered by the knife.

Dr. CULLEN has adopted all these species from Sauvage;

vage ; but neither of these professors have ventured to suggest any thing respecting the indications of cure.

If the tumour is supposed to be *scirrhous*, that is itself a genus ; if it is *fat*, we must consider it as a species of *polysarcia* : if it is caused by *hydatides*, it belongs to *ascites*.

Genus LXXV. Rachitis.

Rickets.

The symptoms are large head ; prominent forehead ; protruded sternum ; swelled joints ; flattened ribs ; big belly ; emaciated limbs ; great debility.

SECTION I.

History and Progress of Rachitis.

It is usually confined in its attack between the two periods of nine months and two years of age, seldom appearing sooner than the former, or shewing itself for the first time after the latter period. The muscles become flaccid, the head enlarges, the carotids are distended ; the limbs waste away, and their epiphyses increase in bulk. The bones and spine of the back are variously distorted ; disinclination to muscular exertion follows ; the abdomen swells and grows hard ; the stools are frequent and loose ; a slow fever succeeds with cough and difficulty of respiration. Atrophy is confirmed, and death ensues. Frequently it happens, that nature restores the general health and leaves the limbs distorted.

After death, the liver and the spleen have been found enlarged and scirrhous ; the mesenteric glands indurated, and the lungs either charged with vomicæ or adhering to the pleura ; the bones soft, the brain flaccid or oppressed with lymph, and the distended bowels loaded most frequently with slime, sometimes with worms. See Van Swieten, Comment. § 14. 85. 6.

It is remarkable, that in the kindred disease, which Hoffman and Sauvage call the atrophy of infants, we have many of the same symptoms, and the same appearances nearly after death. They who perish by this disease,

case, says HOFFMAN, have the mesenteric glands enlarged and scirrhous; the liver and spleen obstructed and increased in size; the intestines are much inflated and are loaded with black and fœtid matters, and the muscles, more especially of the abdomen, waste away.

They have the same predisponent, the same occasional causes, and the same indications of cure.

SECTION II.

Of the Causes Remote and Proximate of Rachitis.

THE predisponent cause must be sought for in laxity and debility, as more particularly observed in the children of enervated and vicious parents, and in those whose nurses are oppressed with poverty. See Boerhaave's Aphorisms. § 1482.

The occasional causes may be traced to diet, bad air, humidity, previous disease, and want of exercise.

It is essential to the health of infants, that they should be kept clean, regularly fed, well exercised, and breathe fresh air. All their motions should be governed by the clock. Yet, if the parents were hysterical or scrophulous, and of an irritable fibre, the children, even with the best nursing, may be delicate, relaxed, and subject both to troublesome acidities, and to morbid affections of the alimentary canal. In this case they should have frequently magnesia and rhubarb, or testaceous powders; and to the neglect of such precautions we must attribute the disease in question.

Dr. CULLEN, for the proximate cause of rickets has assigned deficiency of bony matter in the fluids, which, says he, in some measure depends upon a general *laxity and debility of the moving fibres of the organs that perform the functions of digestion* and assimilation. My opinion virtually coincides with his.

The proximate cause assigned by HOFFMAN for his *atrophia infantum* is deficiency of nutrimental juices, which he supposes to depend on depraved digestion, ill conditioned chyle, and obstructed lacteals; and then he adds, *Quam maxime autem hoc loco accusari etiam debet bilis defectus, vel innertia à præternaturali hepatis constitutione*

tione inducta, ob quam non modo digestio valde læditur, sed oscula quoque tunicæ intestinorum villosæ, minus, rite à mucositate sua liberata, chylum ægrius recipiunt et transmittunt. This sagacious observation is ,in my opinion, equally applicable to rickets as to the atrophy of infants. For certain it is, that if the bile, which is the natural cathartic, is either deficient or inert ; the villous coat of the intestines not being properly freed from mucus, the mouths of the lacteals will not perform their office, the chyle will neither be collected, assimilated, nor transmitted to its receptacle, and atrophy will follow. But when the bile is either deficient or inert, the food will ferment, elastic gas will be discharged, the intestines will be inflated, and fœtid stools will pass. When again general laxity and debility prevail in the moving fibres of the organs that perform the functions of digestion ; the same laxity may extend not only to the mucous glands, in consequence of which a superabundant quantity of mucus will be poured into the small intestines to obstruct the free exit of the bile, and to disorder the functions of that viscus ; but, as this debility and laxity are general, the consequence may be morbid action of the ossifying vessels which secrete bony matter from the blood.

The opinion of Dr. Staudenheimer, as expressed in a letter to Dr. Scherer of Vienna, coincides with what I have said upon this subject. Speaking of soda as a lithontripic, he adds, *Non solum vero ad calculum sodæ usum ego restrinxi ; sed quam multa a vi ejus* MUCUM SOLVENTE *et antacida sperarem in aliis quoque morbis illam cum bono successu adhibui*, and then immediately he refers to *rachitis*.

For a consummation of his sentiments he appeals to the authority of *Veirac*, who wrote a treatise in Dutch on rachitis, and gave soda with excellent effect. See Miscellanea Physico Medica, p. 203, 204, published by Dr. J. A. Scherer at Vienna, 1795.

SECTION III.

Of the Indications of Cure in Rachitis.

From the view I have given of the causes remote and proximate

proximate of rickets, it will naturally follow that the indications of cure must be,

1. To cleanse the first passages from viscid mucus.

2. To restore tone to the stomach, to the whole of the alimentary canal, and thereby to the secretory vessels of the bones.

These indications I say naturally flow from the principles I have laboured to establish, and these are the indications of all the most eminent practitioners.

HOFFMAN recommended to begin with cleansing the first passages, as the source of all the evil, by gentle laxatives, not omitting, if required, a mild emetic of ipecacuanha, with sugar and cinnamon water; because by these means, not only the *sordes viscidæ*, collected in the stomach and intestines, are removed, but by these stimuli the obstructed vessels are opened and a free passage is secured for the chyle. Vol. iii. p. 489.

Staudenheimer and Veirac gave soda, which is certainly a good medicine; but our immortal Sydenham, both in the atrophy of infants, which, as he properly remarks, imitates rickets, and in the true rachitis, orders the following cathartic:

℞ Tamarind. ʒj. Fol. Sennæ, ʒiv. Rhei, ʒiij. Coq. s. q. Aq. Colaturæ ʒvj. Dissolv. Mannæ et Syr. Rosæ. c. aa ʒij. f. M. c.c. Cochl. j. vel ij. plus minus pro ætate.

Tamarinds one ounce; senna four drams; rhubarb three drams; water sufficient to make six ounces when filtrated; to this add manna and syrup of roses, of each two ounces. Give a spoonful or two according to the age and constitution of the infant.

By this gentle cathartic SYDENHAM assures us he cured a great many infants of rickets. He indeed, with this recommended an aperitive liniment for the abdomen; but the cure, as I imagine, must be attributed to the cathartic. In this persuasion I have constantly ordered the latter, and have taken no notice of the former; yet after thirty five years experience, in a neighbourhood in which rickets abound, I do not recollect a single instance in which this cathartic, with the assistance of tonics, failed to effect a cure.

With regard to the second indication, Dr. CULLEN has observed, that the remedies for rickets have been such

especially as were suited to improve the tone of the system in general, or of the stomach in particular, and by this means to improve also the tone of the whole system. With this view BOERHAAVE has prescribed the following:

℞ Fol. et Flor. Betonicæ, un. 3. Cortic. Radic. Capparidis, Tamarisci Rubi Sylv. Trichomanis aa un. 2. Limat. Ferri, dr. i. cum Vini lib. 8. in frigore infusa. Adhibeantur turde die ad unc. 1.

℞ Entis Veneris Boylei, gr. 2 Exhibe vesperi, ex Vino Canariensi quotidie, Spatio iij. septimanarum.

Give two grains of Boyle's Ens Veneris in wine every night for three weeks.

℞ Limat. Martis ℥j Aceti Stillat acerrimi ℥x. Sacchari ℥iij. In phiala alta ebulliant leniter spatio 26 horarum, filtratus liquor fervetur vase clauso. Datur gtt. vj. horis medicis quotidie ex pauxillo vini hispanici.

Filings of iron one ounce; strongest distilled vinegar, ten ounces; sugar three ounces. Let these boil gently in a tall vial for twenty six hours. The filtrated solution is to be kept in a close vessel, and six drops may be given three times a day in strong white wine.

Boyle's Ens Veneris is not a preparation of copper, as the name seems to imply; but is most undoubtedly produced from green copperas (ferrum vitriolatum) by means of sal ammoniac. Mr. BOYLE, on whose veracity we may indulge the most implicit confidence, assures us that he and his friends, including some physicians, cured two or three hundred children, and that almost always without the help of any other internal medicine or external application: yet may of these were in a desperate condition. He gave from two or three grains to ten or twelve, and in some cases to twenty or thirty, and found it operate by urine and by sweat. This medicine may be prepared from iron filings with twice their weight of sal ammoniac, as first recommended by Boerhaave and ordered by the London college. It is the *ferrum ammoniacale*, of which the common dose is from six grains to twenty.

HARTMANN'S *cachectic powders*, composed of iron filings, cinnamon, and sugar, in equal parts, is certainly an approved medicine, and by a few grains of rhubarb may be rendered still more efficacious.

Dr. SMITH gave steel in every form.

Fresh air, exercise, and more especially cold bathing, so much celebrated by Sir JOHN FLOYER, have frequently alone been sufficient to effect a cure.

Class

Class III. CACHEXIÆ.

Order III. IMPETIGINES.

CACHEXIÆ deforming the external parts of the body with tumours, change of colour, and eruptions.

In this order we have nine genera; scrophula, syphilis, scorbutus, elephantiasis, lepra, frambœsia, trichoma, icterus, chlorosis.

Genus LXXVI. SCROPHULA.

King's Evil.

THE symptoms are swelling of the lymphatic glands, chiefly in the neck; thick upper lip; tumid abdomen; smooth skin; florid complexion, and obstinate ulcers.

SECTION I.

History and Progress of Scrophula.

IT appears most often between the third and the seventh year, yet sometimes later, even to the age of puberty, particularly in persons of a fine skin, an irritable fibre and a relaxed habit. Frequently it has attended or has followed rickets, and we see it apparently produced by small pox. The ulcers break out chiefly in the spring, and are very commonly healed before the approach of winter. These most frequently are upon the sides of the neck below the ears; but sometimes in other parts, particularly about the joints. In some patients we observe only a tendency to *ophthalmia tarsi*, or perhaps the upper lip tumid and deeply chapped. It is the disease of humid climates. I never met with it in the southern provinces of Spain.

Scrophulous tumours come on insensibly, proceed slowly, do not readily produce the ulcerative process, and the formation of matter in them is not preceded by adhesive inflammation to limit their extent. Hence it is that scrophulous collections of matter are always larger than they would have been if they had been either a consequence of inflammation, or attended by it.

The

The matter poured forth from scrophulous tumours is not pus, but is generally a kind of viscid serum, and contains a curdly or a flaky substance, which, as JOHN HUNTER observes, is the coagulating lymph deprived of its serum; nor is pus produced till inflammation is excited in the abscess and nature proceeds towards a cure. This seldom happens before the collection of matter has been opened, so as to give it a free discharge, for then inflammation comes on, and spreads to a wide extent, and when the abscess is disposed to granulate, it pours forth good pus; but when the secreting vessels have lost either their tone or structure, they are not disposed to take on healing action, and the discharge is not true pus.

Scrophulous ulcers have usually their edges irregular, smooth, and flat, without the least disposition to contract for a considerable time, unless fresh ulcers appear in other parts; so that when one is healed, little progress is made towards the general cure. Sometimes these ulcers are disposed to spread, both in extent and depth, eroding cartilages, and affecting the contiguous bones with caries, till the constitution, harassed incessantly by fruitless efforts to relieve itself, is exhausted of its strength and sinks into a mortal hectic.

On dissection the mesenteric glands are generally found to be diseased, and tubercles are frequently discovered in the lungs.

SECTION II.

Of the Species of Scrophula.

SAUVAGE enumerates eight species; but Dr. CULLEN reduces these to four: scrophula *vulgaris*, scrophula *mesenterica*, scrophula *fugax*, scrophula *Americana*.

1. Scrophula *vulgaris*, simple, external, permanent. To this species the general description is more particularly applicable. It frequently terminates in phthisis.

2. Scrophula *mesenterica*, simple, internal, with paleness, want of appetite, tumid abdomen, and unusual fœtor of the excrements. It terminates in atrophy. On dissection the mesenteric glands are found to be diseased.

3. Scrophula

3. Scrophula *fugax*, most simple and only about the neck, quickly vanishing, and as speedily returning. It is occasioned, says Dr. CULLEN, by ulcers in the head. SAUVAGE particularly states the drying up of tinea, or the sudden stoppage of a purulent discharge from the ears of children, as the occasional cause of strumous glands, and his statement is certainly well founded. But neither of these professors have noticed a very common cause of scrophula *fugax* in children of an irritable habit, which is *lice*. These vermin harbour much about the nape of the neck, and by their irritation occasion the glands in the vicinity to swell; but no sooner are they destroyed than the swelling of the glands subsides.

4. Scrophula *Americana* combined with *frambœsia*. The strumous swellings are in the neck; the black and fungous excrescences are on the head.

SECTION III.

Of the Proximate cause of Scrophula.

FROM a consideration of all the symptoms we cannot hesitate to agree with Dr. CULLEN, that scrophula depends upon a *peculiar constitution of the lymphatic system;* but this conclusion will not assist us in our indcations of cure. It is neceessary therefore to advance another step. The proximate cause then of scrophula, as it appears to me, must be either a lax, inert, and paralytic state of the lymphatics, or preternatural excitement of the exhalant arteries, of which debility and morbid irritability constitute the predisponent cause. In either of these suppositions the effect will be similar, for stagnation of the secreted fluid and distention of the glandular vessels must be the consequence.

SECTION IV.

Of the Indications of Cure in Scrophula.

IF we suppose the proximate cause of scrophula to be a lax, inert, and paralytic state of the lymphatics; the indication will be, as in palsy, to restore their energy by tonics. Should we however be more inclined to think that

that preternatural excitement of the exhalant arteries is the cause, we may vary the terms of our indications, but the remedies will be still the same; for here it will be required,

1. To remove the stimulating causes whatever they may be.

2. To obviate the predisponent cause, for which purpose we must have recourse to tonics.

Practitioners have recommended a variety of medicines for the cure of scrophula, and every one is partial to his own; but all, who have been most successful in their treatment of this disease, have adopted such as coincide with these intentions. When air, exercise, and a generous diet, with sea bathing, the Peruvian bark, and steel, are ordered, it is obviously with a view to their tonic power; and when cathartics are prescribed, it is not for the purpose of exciting the action of the absorbents by consent, nor should it be with the idea that they will be conveyed as deobstruents to the glands affected, but that by moderately cleansing the organs of digestion, and the mouths of the intestinal absorbents, they may promote a plentiful supply of wholesome chyle, which is the most powerful tonic; nay, such a tonic, that with air and exercise scarcely any other is required. Lord BACON says, nothing contributes so much to longevity and health as frequent and domestic laxatives.

Dr. RUSSEL sent his patients to the sea side, and ordered them to rub their glandular swellings with the *alga marina;* but we must take especial notice, that he never omitted sea bathing, with small doses daily of salt water, as a moderate *cathartic.*

Dr. GARNER recommends Harrowgate water in small quantities as a gentle *cathartic,* to be frequently repeated.

Mr. MORLEY of Essex, justly celebrated for innumerable cures, tied, with superstitious rites, a root of vervain on the breast near to the cartilago xiphoides; but then it must be observed, he frequently repeated *small doses of cathartics* joined with antimonials and the extract of conium maculatum.

RONCALLI,

Roncalli, who for strumous swelling applied ox gall, nut oil, and salt, twice a day; with this external application occasionally gave *cathartics*.

Dr. Collin cured 41 cases of glandular swellings with hemlock, raising the dose from fifteen grains to twenty, three times a day. The late Dr. Fothergill preferred the extract, two drams of which he made into thirty pills. Of these he gave two in the morning, two at noon, and four at night, increasing the dose. He informs us in his works, that they promote rest, ease pain, and procure a laxative stool the day after they are taken. Thus exhibited they have no disagreeable effect, but change a thin corrosive ichor into good pus.

The student must be careful not to be deceived, when he orders either the leaves or the extract of *conium maculatum*; for, as Dr. Buckhave informs us, the *æthusa cynapium*, the *cituа verosa*, the *chærophyllum sylvestre*, and the *phellandrium acquaticum*, with other *umbellatæ*, are frequently mistaken for the hemlock, and produce deleterious, or at least most distressing effects.

Dr. Marryat, of Bristol, used to give the following:

℞ Merc. Muriat. gr. x. Acid. Muriat. gtt. 10. Vin. Antimon. ʒj. M. c. gtt. 20. bis die.

Dr. Whytt, as a more rational practitioner, gave *rhubarb* and *calomel* every fourth night in such a dose as to procure two motions; or if that failed to cure, he ordered an ounce of Spanish soap to be taken daily to clear the glands, and Peruvian bark to brace the relaxed lymphatics.

Dr. Fothergill did not in all cases confine himself to hemlock, but frequently prescribed *calomel* and sulphur auratum antimonii, of each one grain, to be taken every night with the following:

℞ Cinchon. ʒj. Coque in Aq. ℔ij. ad ℔j. sub finem addendo Glycyr. incis. ʒss. Colaturæ adde Aq. Nucis Mosch. ʒij. M. hujus capiat. Co. iij. cum. Tinctur. Guaiac. vol. gtt. 20 ad gtt. 60, ter in die.

Peruvian bark one ounce; boil in a quart of water to a pint, and add liquorice root half an ounce; filtrate and put to it nutmeg water two ounces. The dose is three spoonfuls, with from twenty to sixty drops of volatile tincture of guaiacum three times a day.

Dr.

Dr. CULLEN says little in favour of bark, and of both antimony and mercury, in every shape, he confesses, that he never found them useful in this disease. Yet many of our most eminent practitioners, as we have seen, place their whole dependence on these medicines, and find them sufficient to effect a cure. Dr. J. Fordyce speaks in the highest terms of the Peruvian bark, and Sir Clifton Wintringham agrees with him, but adds chalybeates to increase its tonic power.

The late Dr. CRAWFORD recommended to our notice *muriated barytes* as at once an evacuant, deobstruent, and tonic, when given in doses of two drops, and gradually increased to ten drops of the saturated solution in a cup of water twice a day. In larger doses, as he informs us, it produced nausea, vomiting and purging: but Dr. FERRIAR never found any sensible effect from it even in doses of twenty drops given twice or thrice a day.

Electricity has been efficacious, and may be tried with safety.

In case of *white swelling*, the most approved practice has been to apply a large blister to the knee, which was kept on for three or four days at a time, and frequently renewed; but the inhalation of superoxygenated air seems to promise more effectual relief.

From what I have witnessed of the practice of my friend Dr. THORNTON, I am persuaded, that in white swellings and foul ulcers it will greatly expedite the cure. For in this new mode of treatment with *vital air*, energetic action in the part is supported by the system, whereas in the old practice, with external applications only, it is kept up for a short time by partial stimuli on weak and diseased vessels. But on this subject I shall enlarge when I am to treat of ulcers. When medicines fail to effect a cure, a change of climate must be recommended, and no climate, in my opinion, can be superior to that of *Valencia*, either for this disease or for that species of consumption which originates in scrophula. But independently of climate, the cicuta certainly grows there in such perfection, as never has yet been discovered in cicuta of our

our island, and the physicians have had sufficient experience of its use in these deplorable complaints.

Should the scrophulous or consumptive patient be inclined to make the trial, he will have an easy route by Paris, Lyons, Montpelier, and Barcelona, and for less than fifteen guineas he will find himself transported into a paradise, in which nature exhibits an everlasting spring.

Genus LXXVII. Syphilis.

Venereal Disease.

The symptoms are, after impure connection, gonorrhœa, chancres; nocturnal pain in the bones; ulcers in the mouth and nose; clustered pimples of a copper colour ending in scabby ulcers, chiefly situated near the hairy scalp, with blotches on the surface of the body, often in the face.

On dissection, the bones, particularly of the skull, are found eroded like a honey comb.

This disease, imported from America, made its first ravages in the French and Spanish armies at the siege of Naples, in the year 1493, from whence it spread with such astonishing rapidity, that within four years it reached every part of Europe. In the year 1497, a proclamation appeared in Scotland, ordering all who laboured under the *grand gore*, to quit the continent, and to repair without delay to a little island in the Frith of Forth, where the king stationed surgeons to attend them.

The introduction of such a scourge to the human race diffused universal terror, yet the infection spreads in every nation; most, however, among those who are least acquainted with its nature and its cure.

We may consider the operation of the syphilitic virus as either local or universal.

1. The local operation of the syphilitic virus is inflammatory, and must be treated as such, by adhering strictly to the antiphlogistic regimen. With this intention a vegetable diet must be adopted with demulcents, and such cooling laxatives as are not apt to excite the action of the kidneys.

For a demulcent, order a decoction of either linseed or althæa, with gum arabic or gum tragacanth, or the subsequent composition may be occasionally taken :

℞ Ol. Olivarum. Gum. Arab. Syrup. Limon. aa dr. 4. M.

Should the inflammation run high, either apply leeches near the part affected, or let about twelve ounces of blood be taken from the arm. Dr. WHYTT, as I remember, found it necessary to take an hundred and thirty ounces of blood from one patient before he could subdue the inflammation. But if by the neglect of these evacuations, ulcers should be formed in the urethra, corrosive sublimate much diluted must be injected.

When by the antiphlogistic regimen the inflammation has subsided, the strong mercurial ointment of the London Pharmacopœia may be rubbed on the perinæum, and either the pilulæ hydragyri, or small doses of calomel, may be prescribed, at the same time cautiously avoiding salivation. The subsequent composition has been much recommended.

℞ Merc. Muriat. gr. 10. Acid. Muriatic. gtt. 10. Tinct. Lavend. comp. unc. 1. M. The dose is from ten to thirty drops morning and evening in water gruel, with two scuples gum arabic. Should a purging be induced by this quantity, the dose must be diminished, and at all events the patient must take plenty of diluting liquids, and a free perspiration must be encouraged.

After such evacuants, the cure must be perfected by tonics.

2. When the operation of the syphilitic virus is extended to the whole system ; the disease then by foul ulcers and eruptions on the skin assumes its chachectic form, and vindicates its claim to rank with the impetigines. In this case it requires somewhat of a rougher treatment by mercurials externally and internally, exhibited with a more liberal hand, yet so as not to bring on salivation. With this intention Dr. WRIGHT of Jamaica prescribed the following, and in four or five weeks perfected his cures :

R Gum. Guaiac. ʒx. Serpent. Virgin. ʒiij. Pimento ʒij Opii, ʒj. Hydrargyr. Muriat. ʒss. Sp. Vin. Rect. ℔ij. Digere per tres dies. Cola. c. Co. ij. paro in decoct. Sarsaparil. ℔j bis die.

Dr. H. SMITH usually gave calcined mercury two grains, with three or four grains of sulphur of antimony,

to

to which he added purified opium one grain, made into a bolus, to be taken every night at going to rest, and in his experience he found this cured with as much certainty as a salivation.

An Italian physician, who was intimately acquainted with Dr. CIRILLO of Naples, in the year 1782, has been so kind as to communicate to me his celebrated ointment for the lues, by which this eminent practitioner had then cured more than five thousand patients, of whom scarcely one had ptyalism.

> Take corrosive sublimate, two drams, hog's lard well washed, two ounces; mix them thoroughly by long continued triture in a marble mortar. Of this ointment half a dram must be rubbed into the soles of the feet for three days successively, and must be then intermitted for one day. In the mean time the patient may take extract of the gums. These frictions must be continued till all the symptoms vanish.

To prevent a salivation, perspiration is to be encouraged and cathartics must be occasionally interposed. But should these precautions prove insufficient, recourse may be had to sulphurated kali, in the manner communicated to Dr. BEDDOES by his ingenious correspondent Dr. THOMAS GARNET of Harrowgate. This gentleman assures us, that he has tried it several times, and that he has never seen it fail to abate the salivation to a considerable degree in 24, or at most in 48 hours. The new chemistry throws much light upon this interesting fact, and enables us clearly to see the modus operandi. For, as Dr. GARNET has observed, the *sulphurated hydrogen*, resulting from the decomposition of water by kali sulphuratum, is conveyed into the blood, and there the hydrogen, uniting with the oxygen of the mercurial oxyd, forms water, whilst the sulphur converts the mercury into an æthiops which is inert.

Dr. DUNCAN in his valuable publication mentions a Dr. THUSINK, who gives opium in considerable doses, and informs us, that in Lisle five hundred patients had been cured by it alone. Time will discover whether this high character of opium is well founded.

But the most interesting communication is the case of *a wealthy merchant*, for which we are indebted to my ingenious

ingenious friend Dr. THORNTON. When this Proteus disease, as he properly styles it in his letter to Dr. BEDDOES, had laid aside its inflammatory form, and appeared for two years in its chachectic character, with an ill conditioned ulcer in the lungs, dreadful blotches on the skin, and other most distressing symptoms of debility, Dr. THORNTON made him inspire *superoxygenated air* whilst he was taking muriated mercury, strong decoction of cinchona with the bark in substance, assisted in its tonic power by two grains of opium every night.

By this plan, the cure of this deplorable case was perfected in six weeks.

This case seems to confirm the hypothesis of Dr. GIRTANNER, who attributes the antisyphilic effects of mercury to oxygen, and the incidental cure of lues by Mr. SCOTT, surgeon, at Bombay, in 1793, whilst he was giving nitric acid for diseases of the liver, adds weight to this opinion. Encouraged by these recorded facts, Mr. CRUICKSHANK of the Artillery, exhibited oxygen in various forms.

1. One ounce of lemon juice in three ounces of water, being administered from three to eight times a day, cured chancres and buboes in less than seven weeks.

2. Concentrated nitrous acid, from one to three drams a day, well diluted with water, cured in three weeks.

3. Oxygenated muriatic acid, from five to fifty drops in water, four times a day, was still more efficacious. To these sugar may be added.

4. Oxygenated muriate of potash, from three to twelve grains, four times a day, completed many cures, some speedily, and others within eight weeks.

In these cases no medicines had been previously tried, and no particular regimen was used, nor was there any instances of relapse.

As the oxygenated muriate of potash contains more than half its weight of oxygen in a concentrated form; we are not surprised that it should, as reported, have produced increased action of the system, with sizy blood.

Mr. HOYLE, Jun. of Mayfield near Manchester, sells this

this salt at two shillings an ounce, but should any chemist choose to prepare it for himself, he may procure good Manganese from Upton Pine near Exeter, and the same quantity being for some time exposed to the influence of the atmosphere, will, with a strong heat, yield an equal produce of the purest air.

Genus LXXVIII. Scorbutus.

Scurvy.

The symptoms are indolence and lassitude; countenance bloated, gloomy; *gums livid, spongy, apt to bleed;* skin dry and shining, with livid spots, more especially at the roots of the hairs; breath offensive, and œdematous swelling in the legs.

As the disease advances the patient becomes subject to profuse hæmorrhages from every part of the body; ulcers break out and are very foul; the urine is extremely rank and fœtid; and he has most offensive stools; the pulse is commonly slow and feeble; the respiration is laborious, and his death, more especially if suddenly exposed to fresh air, is sudden.

The persons most subject to scurvy, according to Hoffman, are delicate females, old people, and young men who have either suffered by anxiety and grief, or have been exhausted by previous diseases, such as hæmorrhage and fever, but more especially they who are *remarkable for fat.* This curious observation is confirmed by succeeding practitioners, and particularly by Dr. Trotter, who, among other instances, mentions five natives of China returning on board the Chesterfield Indiaman, in the year 1788. These men were so fond of slush, which is the *fat* of salt meat skimmed from the water in which it is boiled, that, with a cunning not to be described, they evaded the quick sighted vigilance of the cook, and in five weeks from the time of their leaving England became monstrously corpulent. In consequence of this they were shortly over run with scurvy, and although none of the crew, not even the landsmen, had

had the least symptom of that disease, they suffered by it the whole voyage to a most dreadful degee, till the Chesterfield arrived in port.

The occasional causes commonly assigned are, cold, moisture, vitiated air, salt provisions, inactivity, and more particularly a scarcity of recent vegetables.

It is not confined to those who are at sea, for it is frequently observed on land in low situations, where humidity prevails with cold. Here it is endemic, more especially near the sea, particularly if the inhabitants live chiefly on fish and salt provisions.

As to the proximate cause of scurvy, it appears to be relaxation of the solids and a dissolved state of the fluids, or, in other words, a deficiency of well *oxygenated* blood.

With this idea of the proximate cause, Dr. TROTTER tried diluted sulphuric acid in sufficient doses, concentrated acid of tartar to the quantity of six drams a day, the best wine vinegar to the amount of a quart a day, and even nitre half an ounce a day, without any remarkable benefit; neither did his patients derive advantage from either spruce beer or sugar. But when he gave them oranges, lemons, apples, or, for want of these, the citric acid in doses of two ounces three times a day; their recovery was rapid, and he remarks, that by throwing in acid fruits scurvy may be effectually cured, even when all the remote causes, excepting scarcity of recent vegetables, are left to act in their full force.

But whilst *oxygen* is thus conveyed into the system by the organs of digestion, the more natural and regular supply by respiration must not be neglected. The patients should either be removed to a distance from vitiated air, or where they are stationed should have a constant supply of that which is most pure. For the latter purpose, in a ship, no contrivance is to be preferred to the invention of Dr. PAPIN, which was originally destined to that use, as well as to fill deep mines with wholesome air, but has been since confined wholly to the winnowing of corn. For this purpose it has for more than a century been every where used in Holland; and for half a century in the north of Britain. It is to be seen in the repository of the

the society of arts, manufactures, and commerce, at the Adelphi. This instrument, by means of canvas pipes, will convey a plentiful stream of air with a strong blast to the most distant recesses of a ship, and no license for its use is needful from any patentee, because, although little noticed till of late, it has no claim to novelty.

Exercise increases respiration and quickens the circulation of the blood, deriving thereby a greater quantity of *oxygen* from the surrounding atmosphere, and distributing that pabulum of vital energy to every part of the animated frame. Hence it is, that in pure air, exercise strengthens ; but in vitiated and foul air, it relaxes, debilitates, and tends quickly to exhaust the powers of life.

Hope, in all diseases of debility, is to be reckoned among the first of efficacious remedies. It quickens the circulation and invigorates the system in the same proportion as fear enervates and sinks the pulse. In scurvy, more especially, it is found, that whatever inspires confidence and hope tends to expedite the cure. The experiment was fairly tried at Breda, where, during the siege, when the garrison, reduced in their number by the ravages of this disease, were ready from despair to deliver up the town ; a medicine sent by the Prince of Orange, the preparation of which was reported to have been expensive in the extreme, was distributed to the surgeons and administered in drops. This medicine, boasting of properties, to which it had no equitable claim, wrought wonders, and all who took it in the confidence of hope were speedily restored to health.

Genus LXXIX. Elephantiasis.

The symptoms are skin thickened, rough, wrinkled, unctuous, and void of hair ; face deformed with tubera ; voice hoarse or sounding through the nose, and want of feeling in the extremities.

Hoffman remarks, that in one species of elephantiasis the *legs* swell up as high as the knees to a most enormous size, that they are covered with a scaly crust, which being abraded leave red marks, and that these with intolerable itching

itching pour out a thick humour, which soon condenses into fresh scales. But for the true *elephantiasis of the Greeks* he refers us to ARETÆUS. In this, according to that author, the superior parts have many spots and tumours, the redness of which is soon converted snto black. The skin is in some parts much thickened, hardened, scaly; the body becomes atrophic, yet the mouth, the thighs, and the feet, swell. In the inveterate disease the fingers and the toes are buried and hid with tumours. A slow fever succeeds, and destroys the patient.

It might have been sufficient to have stated the symptoms of this disease, and with Dr. CULLEN to have left it where I found it; but having already hazarded so much in other parts of my work, I shall venture, supported by Van Swieten, to hazard something here.

BOERHAAVE informs us in his aphorisms, that a kind of elephantiasis cures melancholia, *Attulit sæpe curationem superveniens scabies fœda, aliquando elephantiasin æmulans*, § 1110; and his commentator particularly states a case of inveterate *melancholia* thus cured.

The learned Baron supposes his atrabiliary matter to be taken up into the system, and to be thrown out again by the emunctories of the skin, where it irritates the cutaneous vessels and produces the disease in question.

To this suggestion he adds the subsequent remark. So in other diseases we observe morbific matter, being carried to the cutaneous vessels, obstructs, inflames, and produces in them various pustules and eruptions which irritate the skin. . . . . .

From an attentive consideration of the astonishing efforts of nature to relieve herself, together with the wonderful power of action of the absorbents, I am inclined to think the supposition of Van SWIETEN substantially just and his remark well founded.

Of the *atrabilis* I have already spoken when treating of the proximate cause of *melancholia*, and although the original idea of atrabilis has been proved to be erroneous, yet certain it is, that bile and viscid mucus in the intestines produce much disturbance in the system. Diarrhœa is one of nature's efforts to get rid of these, but

another

another effort, as I apprehend, is sometimes made by means of the absorbents. They certainly take up stagnant bile in jaundice, and convey it both to the kidnies and to the cutaneous vessels, where it causes sometimes a most intolerable itching, and therefore, considering their extensive powers, it is by no means improbable that other offending matters, such as frequently harass nature in the alimentary canal, may be absorbed and thrown out upon the surface of the body. See the section on the absorbents and their use in the introduction to this class.

If this idea of the disease in question is well founded, we cannot be at a loss for the mode of treatment. Aretæus recommends, as a specific, the shavings of an *elephant's* tooth. But this eminent practitioner, although infected with the medical superstition of the age, did not confine himself to such species; for every other day he gave small doses of white hellebore, of which he speaks in the highest terms of commendation. Indeed he considered this cathartic as of all others the most efficacious, not only in this disease, but in all inveterate and deep rooted complaints, and in restoring to the pale countenance its florid hue. Celsus seems to prefer the black hellebore, but both these herbs were in the highest estimation for all diseases supposed to arise from *atrabilis*.

Aretæus, in order to prevent the stagnation of acrid matters on the surface, where they must naturally irritate the cutaneous vessels and produce a greater determination to the skin, ordered these foul eruptions to be washed in a bath with soap. For the tumours he prescribed suet taken in equal parts from a lion and a bear, to be united with alkali, by which he composed a soap, but a soap of no uncommon virtue, for any other would have precisely the same effect.

Both he and Celsus recommend strong exercise.

In the East Indies, after venesection and gentle cathartics, they give the following:

℞ Arsenic, scr. j.

Piper nigr. dr. 2. optime tritur. in Mort. ferreo per intervalla & per 4 dies tunc in Mort. Marmor. cum aquæ pauxil & M. f. Pill granarum 4. Cap. Æger Pil; m. and v. superbibende haust aquæ frigidæ.—Vid. Asiatic Dissert. Vol. II. p. 214.

Genus LXXX. Lepra.

Leprosy.

The symptoms are the skin rough and chopped, with white surfuraceous scales and crusts, under which is frequently a moisture, with itching.

The observation I have made on elephantiasis are applicable to leprosy. Dr. Whytt considered a morbid state of the vessels under the epidermis as the proximate cause of this disease; but then he never attempted to account for that morbid state of the cutaneous vessels, any otherways than by supposing an acrimonious matter to fall on them. This indeed substantially agrees with the doctrine of Van Swieten. And then, as these vessels are diseased, they must throw out a matter of a different kind and in a greater quantity than they do in a state of health: in consequence of which, instead of a cuticle, their natural production, we have a hard, white crust, and surfuraceous scales.

Most physicians are agreed in leprosy to give antimonials and mercurials, or these powerful evacuants combined with opium, camphor, and guaiacum.

℞ Calomel gr. vi. Camph. gr iij Cons. Rosar. q. s. M. f. Bol. 6a. quaque nocte sumend. et die sequente.

℞ Kali Tartarisat ʒj. Mannæ. ʒvj. Aq. fervent ℥iij. Tinct. Cardamom ℥j M. f. H m. s.

Calomel six grains; camphor three grains; conserve of roses, sufficient to make a bolus, to be taken every sixth night; and the next morning take tartarised kali one dram, with manna six drams, dissolved in three ounces of boiling water, to which add tincture of cardamoms one dram.

In the intermediate spaces the patient may drink half a pint of sea water every morning.

℞ Calomelanos, gr. xv. Sulph. Antimon. Precipit. ʒss. Opii, gr. x. Ol. Sassafr. ess. gtt. xx. Extract. Lig. Guaiac. ʒij. Syr. Papaveris Alb. q. s. f. Pill. 36. Cap. Pill. iij. mane et vesp.

Calomel, fifteen grains; precipitated sulphur of antimony half a dram; opium ten grains; extract of guaiacum two drams; syrup of poppies sufficient to make thirty six pills, of which take three morning and evening.

℞ Merc. Muriat. gr. x. Acid. Muriatic. gtt. x. Vin. Antimonii, ʒj. M. c. gtt. 20. bis die.

These must be followed by tonics and astringents.

℞ Cinchon.

℞. Cinchon. ℥iij. Mucil. Gum. Arab. ℥j. tere et adde Elix. Vitriol. Acid. gtt. 90. Syr. Cort. Aurant. ℥j Aq. Rosar. ℥vj. Tinct. Cardamomi Comp. ℥j. M. c. Co. iiij. bis die.

Bark three drams; mucilage of gum arabic one ounce; grind them together; add acid elixir of vitriol ninety drops; syrup of orange peel one ounce; rose water six ounces; compound tincture of cardamoms one ounce. Take three table spoonfuls twice a day.

Some have found benefit by tar ointment, and, when the eruption is not considerable in extent, mercurial ointment has been added to advantage.

A practitioner of eminence reports his having cured one patient by tincture of cantharides, thirty drops twice a day, increasing the dose to one dram three times a day. He cured others by dulcified spirit of vitriol, beginning with thirty drops, and increasing the dose to two drams, thrice a day.

For further observations consult *Herpes* in the order DIALYSES, of the class *Locales*.

Genus LXXXI. TRICHOMA.

Plica Polonica.

THE hair grows long and coarse, matted and glued into inextricable tangles.

This disease is commonly preceded by 1. Paleness. 2. Weakness of the joints. 3. Pains in the head and in the joints of the hands and feet. 4. Noises in the ears. 5. Convulsions. 6. Contractions. 7. Rickets and fragility of the bones, and sometimes mania.

It was imported into Poland from Tartary about the year 1687, and spread through Silesia and Hungary in less than forty years. In autumn, the peasants since that period have been subject to an eruptive fever, which principally infests the head, and terminates in this disease. It is indeed regarded as a critical discharge. No medicines relieve it, but in process of time the plicæ fall off spontaneously.

If however they are prematurely cut off, the consequence according to HOFFMAN, is either a dreadful headach, epilepsy, phrenitis, mania, melancholia, gutta serena, pleuritis,

pleuritis, hæmoptysis, or phthisis pulmonalis. All these diseases, if occasioned by a latent plica, vanish as soon as the plica appears. For this reason they assist this effort of nature to relieve herself by embrocating the head with a warm decoction of club moss *(lycopodium clavatum)* twice a day. This in about a week produces the plica, and relieves the patient from the accessory disease.

Genus LXXXII. Icterus.

Jaundice.

The symptoms are yellowness of the eyes and of the skin; fæces white; urine high coloured and tinging linen yellow; universal langour, and lassitude with costiveness.

To these symptoms, Aretæus adds, *Idem frigent imbecilli, desides, tristes atque demissi animo sunt.*

SECTION I.

Of the Causes Remote and Proximate of Icterus.

The predisponent cause is debility, as attended either by morbid irritability or by torpor. The occasional cause may be unwholesome diet, such as unripe fruits or an over proportion of the legumina, with austere and acid wines, or malt liquor when the acetous fermentation has advanced too far; hard drinking; agues, when prematurely cured by bark; protracted grief; anger; violent emetics; poisons, particularly of serpents, and pressure.

The proximate causes of *jaundice* is evidently obstruction to the natural passage of the bile by the intestines, causing it to be taken up into the habit and to circulate in the vessels.

This obstruction may be either in the duodenum, at or below the entrance of the common duct, or in the duct itself. In the former case the bile passes by the lacteals into the thoracic duct; in the latter it may either regurgitate by the hepatic veins, as proved by Dr. Saunders, or be absorbed by the lymphatics, which are derived from

from all the branches of the hepatic duct, as he and Cruickshank have frequently observed in their dissections.

That obstruction may take place in the duodenum is evident by dissections, and has been particularly noticed by M. Portal. In the yellow fever of the West Indies, of which jaundice is a system, the excessive quantity of bile in the intestines proves that the biliary ducts are free. And when with jaundice, we have regurgitation of bile into the stomach, as in case of *gastrodynia flatulenta*, it is plain that the obstruction is not in the duct, but in the small intestines.

SECTION II.

Of the Species of Icterus.

SAUVAGE has no less than fourteen species, which Cullen has reduced to five, viz. Icterus *spasmodicus*; Icterus *calculosus*; Icterus *hepaticus*; Icterus *gravidarum*; and Icterus *infantum*: but to these I think it expedient to prefix another, which more commonly occurs than either of the others, and to which I have given the name of Icterus *mucosus*.

I. Icterus *mucosus*, not attended by pain nor by spasmodic affections. No gall stones are observed in the fæces, but with cathartics a quantity of viscid mucus is discharged. I have frequently met with icteric patients, who have evacuated more than a pint of gelatinous matter unmixed with fæces at one stool; and I met with one who, for several days together, passed such a quantity of mucus that he thought his bowels were dissolved.

The only modern author, who has laid a foundation for this species of jaundice, although it is certainly common, is baron VAN SWIETEN in his commentaries, §950; where he judiciously observes, *Imo et in adultis pituitosa collubies in primis viis hærens icteri causa fuit.* This observation he confirms by a reference to Hippocrates, who, with the greatest propriety, declares it easy to be cured.

It is this species which has for its predisponent cause the debility of torpor. The occasional causes are unwholesome

wholesome diet with unripe fruits, or with an over proportion of the legumina; humidity and marsh miasmata; ill cured intermittents; indolence and want of exercise; hard drinking and cold liquids after violent exertion; anxiety and protracted grief. I shall enlarge on the action of these causes. The stomach and intestines are constantly supplied by appropriate glands with mucus, which lubricates their internal surface to prevent attrition and adhesions, and to defend them from immoderate irritation. This, in a state of health and vigour, is produced only in sufficient quantity to answer these intentions; but the effect of grief and fear is to relax the glands and to increase the quantity of mucus. Their action is excited by the stimulus of ardent spirits, spices, and fermented liquors, and as when once morbid habit is established, they continue to pour forth their copious streams, a constant determination from these glands takes place. The same determination is created by humidity which checks perspiration and increases the discharge of mucus by the intestinal glands, as well as the flow of urine by the kidneys. The poverty of diet above described, and want of exercise by causing generally debility, tend to produce the same effect. Ill cured intermittents leave the bowels loaded with slime, and for this reason certainly it was, that in the cases of remittent fever, observed by Sir JOHN PRINGLE, "if evacuations were either neglected or too sparingly used, the patients fell into a continued fever, and sometimes grew *yellow*, as in a jaundice." See his Diseases of the Army, part i. chap. 3.

This mucus, when first secreted by the glands, is fluid although viscid, but when, by its accumulation, it has prevented the action of the bile, as the natural cathartic, upon the intestines, and produced some degree of costiveness; the absorbents, taking up incessantly the aqueous particles, render it more tenacious, till it resembles glue, or becomes, as I have stated in *tussis stomachalis*, tough as leather. Unripe fruits, austere or acid wines, and ardent spirits, as Boerhaave and Van Swieten have well

well observed, render this viscid mucus still more tenacious, § 69.

From a consideration of these remote causes, and of the effect immediately produced by them, with attention to the anatomy of the parts concerned in the jaundice, we shall not be at a loss to assign the proximate cause in that species which we have now in view. It is certainly tenacious slime obstructing the orifice of the common duct at its entrance into the duodenum. This effect may be the more readily conceived, if we call to mind the very oblique direction in which it penetrates the coats of that intestine, and that it passes for a short space between two of them. When thus the mouth of the common duct is closed, we have commonly not only obstruction to the passage of the bile into the intestines, but of the pancreatic juice; because most frequently the pancreatic duct enters the duodenum by the same orifice; and then, for want of these detergent and stimulating fluids, tenacious slime accumulates, and the disease naturally goes on constantly increasing.

These ideas, I expect, will be confirmed by the cases I shall produce, and by a consideration of those medicines which at any time have been found effectual in the cure of jaundice.

II. Icterus *spasmodicus*, not attended by pain, but subsequent either to spasmodic affections or to mental passions, and apt to be both sudden in its attack, transitory in its duration, and, sometimes, periodical.

The persons most liable to this disease are, those of the sanguine temperament, and of an irritable habit; the hysterical, and such as are subject to either iliac passion or the common bilious and spasmodic colic.

For the predisponent cause we may assign debility with morbid irritability, and for the occasional causes, 1. Violent anger. 2. Venom communicated by the bite of animals, as of vipers, squirrels when enraged, mad dogs, and even spiders. 3. Stimuli applied to the intestines, whether violent emetics, drastic cathartics; bile either in cholera or the beginning of bilious fevers, as in the yellow fever of warm climates, or the bilious autumnal fever

fever of our island; worms; and even mucus, with either bile or undigested sordes, in very irritable habits.

From what has been said it will appear, that for the proximate cause we may assign, with Mead, Hoffman, Sauvage, and Cullen, *spasmodic stricture*, either in the duodenum, or at the mouth of the common duct.

The existence of such a species is confirmed by anatomical observations, because in these cases, after dissection, neither calculi nor viscid slime have been detected.

III. Icterus *hepaticus*, not attended by pain. It follows diseases of the liver, and is therefore symptomatic.

IV. Icterus *gravidarum*, originating from pregnancy, and vanishing with paturition, or from the pressure of hardened fæces in the colon, and disappearing when these have been evacuated.

V. Icterus *calculosus*, attended by acute shooting pains in the epigastric region and right hypocondrium, which are increased after eating, and by evacuation of biliary concretions. It has sometimes straitened respiration, compression of the chest, nausea, frequent efforts of the stomach to get rid of its contents, and difficulty of walking upright. The sickness, with incessant vomiting, generally precedes the jaundice, which is apt suddenly to disappear, after which gall stones are to be discovered in the stools. For this reason Baglivi ventured to say, *Si videris icteros sanatos, sed recidivos, eos certe a calculo vesicæ felleæ progigni prædicito*: but this rule as we have seen in the preceding species, will not always guide us right; for in that the attack of jaundice is sometimes sudden, transitory, and periodical.

This species of jaundice, I apprehend, is seldom if ever an original disease, but is occasioned either by icterus *mucosus*, icterus *spasmodicus*, or icterus *gravidarum*. For when the bile stagnates in the gall bladder, whether that stagnation is occasioned by mucus, by spasm, or by pressure, biliary concretions may easily be formed, by subsidence, attraction of the grosser and homogeneous particles to each other, or by the action of the absorbents taking up the more fluid parts till the remaining bile becomes a solid mass. Van Swieten informs us, that he has

has seen bile, tenacious like glue, brought up by the action of emetics, after which the jaundice never returned again: and HOFFMAN, in a case hereafter to be mentioned, found the gall bladder filled with black and viscid bile resembling pitch. Others have discovered this receptacle wholly occupied by one mass of bile, the external coat of which was solid and compact, whilst the interior coats were softer, and at the centre contained liquid bile.

More than a hundred gall stones have been discovered in one patient after death, even in cases where no symptoms of jaundice had appeared. HEISTER, dissecting the body of a woman, found one calculus as big as a walnut, and the common duct so much enlarged, that he could thrust his little finger into it. But one of the most uncommon cases is related by VAN SWIETEN of his mother in law. This lady, after repeated paroxysms of jaundice, was suddenly seized with a violent pain in the region of the duodenum, followed by syncope, which continued only one quarter of an hour. At the end of two days, they discovered in the fæces a gall stone large as a joint of the thumb, and two more nearly of the same size, which, by corresponding impressions, appeared evidently to have been formed at the same time. Having passed these calculi, she became free from jaundice. Yet considerable as were these for magnitude, much larger than these have been evacuated, which had therefore passed the common duct.

Mrs. Floyer, mentioned by Dr. JOHNSTONE in his Medical Essays, after excruciating pain and vomiting for seven hours, voided a gall stone $1\frac{3}{8}$ inch by $\frac{7}{10}$, after which she had excessive discharge of bile, up and down; yet she had no jaundice.

As neither the gall bladder nor the common duct is supplied with muscular fibres; when they have been dilated by calculi, they do not readily contract again. In one case, recorded in the Edinburgh Medical Essays, vol. ii. p. 303, we find the common duct obstructed by calculi, and the gall bladder extended to such a surprising bulk as to contain eight pounds of bile.

Sometimes, when gall stones cause irritation, and are yet too large to pass the common duct, nature in her efforts to relieve herself, excites inflammation, suppuration, ulceration, and the adhesive process to surround the whole with an impenetrable wall, for the boundaries are circumscribed by effusion of coagulating lymph, so changed in passing through inflamed vessels, that the parietes of the abscess become a compact mass. See Dr. SAUNDERS's most interesting Treatise on the Diseases of the Liver. Mr. CLINE has met with cases where this kind of connection between the biliary sack and the contiguous intestine having been perfectly established, large gall stones escaped through the aperture, in consequence of which the cyst, being no longer distended by bile, contracted. And Dr. JOHNSTONE, in his Medical Essays, p. 207, mentions the case of Sarah Ewdall, who after violent pain in the region of the gall bladder, passed biliary concretions from an abscess at the pit of her stomach.

The case of my old friend O'Neille, captain general of Arragon, was highly interesting. When I quitted Spain, I left him labouring under obstinate *jaundice*. After that time a considerable impostume appeared in the region of the liver, formed by enlargement of the gall bladder, which united by the adhesive inflammation with the peritoneum, and this, when opened by the lancet, gave issue to several biliary concretions, which were of a considerable size.

He was attended by the most able surgeons, with whom M. Gimbernat was joined in consultation, and before they ventured to open the abscess, they were satisfied that the adhesive inflammation, which was to connect the parts in contact, had taken place. Had they doubted of this, they would have applied cantharides or some other irritating substance to the abscess, before they attempted such an hazardous expedient; for had they been mistaken in their judgment, the contents of the abscess would have been discharged into the cavity of the abdomen, and the admission of atmospheric air into this cavity might have produced inflammation and gangrene

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on the internal surfaces, that is, on the peritoneum, the intestines, the omentum, and all the other contents of the abdomen.

It is not the presence of gall stones in the cyst that causes jaundice, for there, as we have seen, they may remain without creating disturbance in the system; but when, by sneezing, coughing, vomiting, jumping, wrestling, suddenly falling, by convulsions, or by any other means, a strong pressure is made upon the liver, they are brought down into the common duct; they must either pass freely or they will cause obstruction to the natural passage of bile into the intestines, and produce a jaundice.

VI. Icterus *infantum*, occasioned by the meconium.

SECTION III.

Of the Indications of Cure in Icterus.

From what has been delivered, it is evident that the indications of cure must vary according to the nature of the causes which occasion the several species of this disease. Quacks universally prescribe either to the most distressing symptom, or at best to the generic character, that is to the name of a disease and not to the disease itself: but the rational practitioner considers, before he ventures to prescribe, the whole of the disease in question, with its causes both remote and proximate. He distinguishes the species from each other, as characterised by their peculiar symptoms, and is never satisfied till he ascertains not merely the presence of this or that disease, but by what cause it is produced. The importance of such distinction is no where more conspicuous than in cases of *jaundice*, for which innumerable remedies are offered, but not one of them admissible without attention to the species.

This observation can never be too much inculcated on students; and, although it might with propriety have appeared with others in some general introduction to my work, I trust it will not be thought improper here.

I. Icterus *mucosus*.

The curative indications are,

1. To

1. To evacuate the viscid mucus from the duodenum.
2. To restore tone to the mucous glands.

To answer the first intention, we must have recourse to emetics, giving from three to ten grains of ipecacuanha with a grain or two of tartarised antimony every other morning.

The emetics may be followed by cathartics. These however must not be drastic and hydragogue, for such not only defeat our purpose by increasing debility, but by their highly stimulating powers they excite the action of the intestinal exhalants, and are soon washed away out of the body.

Small doses of calomel may be given at night, either alone or combined with asa fœtida.

℞ Calomel. gr. iij. Asæ fœtid. ℈j. Ol. Carui. gtt. v. M. f Pill. vj. h. s. s.

Calomel three grains, with twenty grains of asa fœtida, and five drops of oil of carraways, made into pills, and taken at night.

This may be repeated twice a week, and worked off the next morning with rhubarb and senna, warmed by either cinnamon or nutmeg water.

℞ Rhei, gr xij. Infus. Amar. Purg. un. 2. M. f. H. m. s.

℞ Rhei, gr. xij. Tinct. Senæ, un. 1. Aq. Menth. vulg. un. 2. M. f. H. m. s.

Or, in place of these, two ounces of the elixir salutis, which is the only genuine *Daffy's Elixir*, or occasionally castor oil. Ol. Ricini u 1. ad un 2. may be given in the morning.

Dr. Darwin has brought away from 30 to 50 stones by calomel grains six at night, and oil of almonds four ounces in the morning.

Sir E. Hulse gave sal vol. cornu cerv. scr 1. in mint water three times a day.

The pills recommended by the ingenious Dr. Beddoes in cases of urinary calculi, are powerful detergents. To compose them you must take crystals of sal sodæ coarsely pounded, and expose them to a warm dry air, till they crumble into a white powder. Seven drams of this with one ounce of soap being made into pills, the dose may be from ten to twenty grains twice a day.

No medicine has been more universally recommended by

by the most eminent practitioners, and no one can be more worthy of the reputation it has hitherto maintained than tartarised kali.

Of this, from one scruple to a dram may be given twice or three times a day, either alone or combined with rhubarb. Dr. Nicolai, recommending among other aperient substances this composition, says of it, *Egregiam exserit efficasiam in* ICTERO, *si a ductuum biliarum obstructione*, QUAM MATERIA *tenax et spissa producit, oritur.*

℞ Rhei, ʒss. Kali tartarisat. ʒj. Confect. Aromat. ℈j. Aq. Menth. vulg. ʒij. M. f. Haust. 8. q. h. s.

Rhubarb ten grains; tartarised kali a dram; aromatic confection a scruple; mint water two ounces. To be taken three times a day.

In the Canary islands, where jaundice is prevalent, M. Betancourt seldom fails to cure it in a few weeks by means of emetics, followed by pareira brava. Of this he makes a decoction, putting an ounce of the root to eight pints of water, and reducing it thus to six pints. The dose is half a pint three times a day. I have given it with great advantage.

After having cleansed the first passages, we must have recourse to tonics and astringents, for should we proceed with evacuants, we should not only debilitate the system and destroy the tone of the mucous glands, but we should establish a determination of the fluids to those glands, and cause them to acquire a habit of superabundant secretion, thereby increasing the disposition to jaundice.

A powerful tonic, and the most proper in chachectic cases, more especially in jaundice, is iron; of the best form of it, in the opinion of both Sydenham and Hoffman, is that of filings, of which from five to twenty grains may be given at a dose. Hoffman combined it with vitriolated kali, ordering as follows:

℞ Limat. Ferri. dr. 2. Kali vitriolat. scr. 2. Ol. Menth. gtt. 6. M. f. Pulv. c. c. dr. ½ bis die.

Hoffman was very partial to his *tinctura martis pomata et cydoniata*, which are excellent preparations, combined with the peruvian and cascarilla barks, but he condemns bitters, and assures us that by long experience he had found them detrimental.

As a deobstruent and tonic in jaundice no medicine is

to

to be compared to horse exercise. This supplies the place of emetics and carthartics in separating viscid mucus from the intestines ; and, promoting insensible perspiration, it prevents determination to the mucous glands. Van Swieten, § 69, judiciously observes, that for want of exercise the stomach and bowels become internally coated with tough phlegm (lento glutine) but that by increased respiration and alternate action of the abdominal muscles, these viscera are shaken, pressed, and scrubbed, as it were, by attrition, so as to be effectually cleansed.

Hoffman strongly recommends a *journey*, not merely for the sake of air and exercise, but for the cheerfulness, the change of scene, and the distance interposed between the man and his domestic cares, for in jaundice he regards tranquillity of mind as most essential to a cure.

II. Icterus *spasmodicus*.

The curative indications are,

1. To relieve the spasm. 2. To obviate its recurrence.

I. The first intention may be answered, 1. By removing, when it is possible, the morbid stimulant, such as worms, by anthelmintics ; viscid mucus, and acrimonious bile by gentle emetics and cathartics, more especially by *castor oil ;* and the mental stimuli, particularly anger, by moral arguments. But all violent emetics and cathartics must be carefully avoided, because they increase the spasm.

2. When the stimulants applied to the intestines are not removable by the milder evacuants, their power must be weakened by diluents and demulcents, such as warm liquids, and emulsions made with linseed, oil of almonds, spermaceti, and gum arabic, as in the several Formulæ of my Physician's Vade Mecum, in the class *demulcents*.

3. When the spasm is occasioned by some general stimulant, such as venom communicated by the bite of animals, which can neither be removed nor yet relieved by diluents and demulcents, we must have recourse to more powerful stimulants. These are asa fœtida, camphor, musk, ether, opium, electricity, and heat. Dr. Darwin informs us, that a gentleman, who for jaundice had

had taken emetics, mercury, bitters, steel, essential oils, and ether, without benefit, was cured by ten smart shocks of electricity from a quart phial taken through the liver.

A certain degree of heat, that is a genial warmth of about 96°. or 97°, is friendly to the system, and efficacious in relieving spasm. This may be applied either in a bath; by carminative, demulcent, antispasmodic clysters, by fomentations to the part, or by all of them successively. The fomentation may be with chamomile flowers, or a plaster may be made with treacle, expressed oil of nutmegs, and spermaceti in equal parts, and camphor for the pit of the stomach. The clyster may be made with milk, oil, ginger tea, and some drops of laudanum.

II. The second intention requires tonics and astringents, cold bathing, bitters, bark, and steel.

℞ Cinchon. ʒj. Ferri tartarisat. ʒss. Pulv Aromat. ʒiij. Conserv. Cort. Aurant. ʒij. Syr. Zinzib. q. s. M. f. Elect. c. c. M. N. M. bis die superbibend. Cyath. Infus. seq.

℞ Quassiæ, Rad. Columb. aa ʒss. Cassiæ Lign. ʒj. Aq. fervent. ℔j. Macera per noctem et cola. Colaturæ adde Ess. Lignor ʒss.

Bark one ounce; tartarised iron half an ounce; aromatic powder three drams; conserve of orange peel two ounces; syrup of ginger sufficient for an electuary. Take the size of a nutmeg twice a day with a cup of the subsequent infusion.

Take quassia and columbo root, of each half an ounce; cassia lignea, one dram; boiling water a pint. Steep for a night and strain; add to this, essence of the woods half an ounce.

III. Icterus *hepaticus*. Dr. Cullen considers as incurable.

IV. Icterus *gravidarum*. If from pregnancy, it vanishes on parturition; if from hardened fæces in the colon, it is cured by clysters and cathartics.

V. Icterus *calculosus*. The curative indications are pointed out by nature in her efforts to relieve herself; for when a gall stone passes with difficulty, incessant vomiting is excited to expedite its passage, and if either the pain or the straining to vomit is excessive, both which occasion spasm, syncope ensues, and then most commonly the biliary concretion passes, for in syncope spasmodic action ceases, and every fibre is relaxed.

Hence the only indications are, 1. To produce, by emetics,

emetics, repeated concussion of the viscera. 2. To assist the free passage of gall stones, when needful, by antispasmodics, precisely as in spasmodic jaundice, by camphor, Hoffman's anodyne, and opium, by warm bathing and fomentations, with antispasmodic and emollient clysters. 3. To unite these means by giving our emetic whilst our patient is in the bath. And we may safely pass shocks of electricity through the region of the liver.

When the gall stones are passed; if their formation was occasioned either by icterus mucosus, or by icterus spasmodicus, we must give tonics and astringents, to prevent the recurrence of the disease.

VI. Icterus *infantum* is speedily and effectually cured by clearing the meconium.

SECTION V.

Cases of Jaundice.

Case I.

A. M. aged 40, of a relaxed and irritable habit, was attacked by jaundice, at the first approach of which he observed morsels of undigested food to have passed by stool, then fulness in the epigastric region, followed by white stools and yellow urine. An emetic brought up the half digested food of two days, and with that some morsels of veal perfectly unchanged, which he had eaten the first of these days for dinner. By two grains of calomel, taken every night, in four days he evacuated much *viscid mucus*, his urine became limpid in the night, although very yellow through the day, but by two doses more of calomel, followed by tincture of rhubarb, he had many proper stools, followed by one of pure mucus resembling jelly, after which, by horse exercise, he was perfectly restored to health.

Three years from this period, in the beginning of February after having been frequently wet in riding, he was seized with pain in the right breast, of the same kind as usually preceded *gastrodynia flatulenta*, to which he had been subject. He took an emetic, threw up a teacupful of pure bile, and was free from pain: but his stools became white and his urine yellow. He had again recourse to calomel, but without any effect, till he increased the dose to ten grains at night, followed by an aloetic and alkaline cathartic in the morning. These produced a copious evacuation of the alvine fæces, followed by about a pint of pure mucus resembling jelly, besides much which was extremely viscid. From this time the symptoms were alleviated, and by moderate cathartics the disease appeared to be perfectly removed.

In the beginning of May in the same year he was able to walk from twelve

twelve to fourteen miles a day without fatigue, till he happened to go ten miles with a scorching sun in front, and a cold north wind behind, by which he was much exhausted, and the next day perceived at dinner such convulsive motions in his under lip, that whilst eating it was incessantly drawn in between his teeth. At night he was restless, and the next day had white stools, yellow urine, constant chilliness, with a slow pulse, and so weak as scarcely to be perceived. Strong cathartics were resorted to with considerable doses of calomel, followed by tartarised kali, all which brought away much *viscid mucus* and relieved the symptoms; but they speedily returned.

In this situation he applied to Dr. Fothergill, of Bath, who considering that merely to evacuate the viscid mucus left the glands relaxed to pour forth a fresh supply, resolved to try the tonic plan. With this intention he gave steel, columba root, and aromatics, which soon perfected a cure.

Case II.

A counsellor, aged 37, after protracted grief, took to a sedentary life, and instead of wine, his usual beverage, drank spirits in too great abundance. The consequence was, that with slow fever he lost his appetite and became icterical. After various remedies had been tried in vain, he took two emetics, each composed of tartarised antimony one grain, with fifteen grains of ipecacuanha, and was perfectly restored to health.

Some years after this, *jaundice* returned again with greater violence than before. Rhubarb, bitter extracts, balsams, sedatives, and antispasmodics, all excited nausea, and even vomiting.

In this situation the only medicine he could bear was a mixture of glauber salts, nitre, vitriolated kali, and crab's claws, in wine and water with lemmon juice, in small but frequent doses. He had a cataplasm at the region of the liver composed of wormwood *(artemisa absinthium)*, water germander *(teucrium scordium)*, chamomile flowers, and cummin seeds, boiled in wine. This was applied warm, and when cooled was frequently renewed.

At the end of two months, he had a spontaneous discharge of alvine *fæces, dry, clay coloured, and most abundant*, which continued for four days, when they began to assume a yellow colour, and he soon recovered health, appetite, and strength.

Hoffman remarks upon this case, that he has always observed cataplasms and fomentations highly beneficial in obstinate jaundice, and frequently attended with instantaneous relief of all the symptoms, which have reverted on the omission of these external applications.

Case III.

Baron Van Swieten in his Commentaries relates the case of an old lady, aged 60, who had been icterical for twelve years. At first the paroxysms were periodical, but latterly it was a confirmed and continued jaundice tinging the whole body black except the eyes, which were of a deep yellow.

By his orders she persisted for two years in the use of whey with juice of grass in spring, Spa water in summer, and honey with soap in winter.

At the end of eighteen months a copious evacuation of argillaceous and most offensive matter, interspersed with calculi, succeeded, and continuing for six months, with a manifest relief of all the symptoms, she was perfectly cured. It must be added, that to support her strength, the professor indulged her with a generous diet.

CASE IV.

A gentleman, aged 50, sedentary and accustomed to good living, yet mixing with a generous diet much milk and acid fruits, became, after protracted grief, cathectic. His countenance was livid and much suffused with bile; he lost his appetite and strength; suffered much by flatulence and borborygmi in his bowels, had difficulty of breathing, and complained of costiveness. His pulse was weak, sometimes intermittent, and always unequal. *Jaundice* followed with swelling of his feet, and after a time he became hydropic.

For this complaint he called in a physician, famous for the cure of dropsy, who gave him an extract of *elaterium* and *enula* one dram, which being repeated, evacuated both up and down a great quantity of *viscid mucus (ανω και κατω fortiter expurgabatur ingens viscidi muci copia)*.

On dissection, water was discovered in his chest; and biliary concretions, one of which weighed three drams, were taken from the gall bladder. The liver and spleen were flaccid, and the blood in them was very black.

CASE V.

A gentleman, aged 40, who from his youth had been devoted to Bacchus, and had never lost an opportunity of prostrating himself before the altars of the Cyprian goddess, in recompense for all his services, became debilitated and afflicted with the gout. This gentleman, after a fit of anger was suddenly attacked by *jaundice*, with the most distressing symptoms; for at intervals, he was tormented with most agonizing pain in the stomach about the pylorus, attended with cold sweats and a total loss of appetite. By degrees, the yellowness of his skin was turned to black, and being repeatedly put into a warm bath, all the *spasmodic* symptoms were not only aggravated, but extended to the urinary bladder, more especially at night, producing an *ischuria*. *Atrophy* succeeded, with extreme debility and coldness of the extremities; all which went on increasing, till he paid the last debt of nature.

Hoffman, on dissection, found the intestines of a dark colour, and much inflated; the urinary bladder thickened and covered with black spots; the liver hard and greenish in appearance; the gall bladder black and filled with a viscid humour resembling pitch; the cystic duct much straitened, and the duodenum with the pylorus, and part of the colon, tinged of an obscure yellow and corroded in their external coats.

Hoffman in his fourth volume records a curious case of stubborn jaundice, cured wholly by the repetition of emetics.

Genus

Genus LXXXIII. Chlorosis.

Green Sickness.

The symptoms are discoloration, or livid paleness of the skin, even of the lips, laxity and flaccidity of the muscles, with fulness of the veins, and œdematous swelling of the feet; remarkable whiteness in the tunica albuginea; pulse frequent, small, and feeble; extreme lassitude, dyspnœa, and palpitation, attending muscular exertion, particularly in going up stairs, which is followed sometimes by syncope; general debility, mental torpor, and universal coldness, dyspepsia, flatulence and costiveness; appetite both deficient and depraved; pain in the back and loins; amenorrhœa. Van Swieten thus briefly and elegantly defines this disease. *Chlorosi laborat debilis puella totum corpus laxo œdemate tumet; pallent et frigent omnia.*

SECTION I.

Of the Causes Remote and Proximate of Chlorosis.

The occasional causes are, Inactivity; poverty of diet, with acids, viscid aliments, and a superabundance of watery or of unfermented vegetables; impure air; humidity; stifled anger, fear, terror, and protracted grief, ungratified desires and hopeless love; excessive evacuations, whether by hæmorrhage, or the opperation of emetics and cathartics; previous diseases, particularly fevers, and ill cured intermittents; and stoppage of the catamenia, by whatever cause produced, for this symptom of the disease in question is both effect and cause.

Hoffman, for the proximate cause, assigns a depraved state of the fluids arising from loss of tone in the solids, and more particularly in the chylopoetic viscera.

In this opionion he discovers his usual sagacity; for the cause here assigned accounts for all the symptoms. They continue as long as this subsists; and this being removed, they vanish. With this also the occasional causes perfectly agree; for all of them, without exception, tend to destroy the tone of the stomach, and thereby to deprave

prave the fluids, which derive their properties from the action of the solids. But besides this affection of the stomach, there is certainly a considerable degree of torpor in the lymphatic system, as appears by the universal increase of bulk, and by the œdematous swelling of the legs. We observe also remarkable debility in that organ which gives motion to the blood; for we have the venous plethora, which is produced by diminished energy of the heart, when unable to overcome the elasticity of the arteries, and to distend them to their natural size. And, as a direct evidence of deficient energy, with want of excitement in the heart, we have the frequent, small, and feeble pulse. When, in addition to all that has been hitherto suggested, we consider the mental torpor, the livid colour, and the loss of vital heat; can we hesitate in ascribing all these symptoms to deficient *oxygenation* of the blood?

The consent between the stomach and the lungs has been frequently insisted on; and in chlorosis calls for particular attention. A variety of substances, applied immediately to the stomach, have the power, as I have fully stated, of exciting the action of the lungs and of assisting them to oxygenate the blood: and the lungs, when they supply the system with a sufficiency of oxygen, thereby assist the stomach in its office of digestion. But when the blood is well oxygenated, the absorbents are excited to more vigorous action; vital energy is increased in the heart and arteries; the spirits rise; cheerful activity succeeds to indolence and gloom; the countenance regains its florid hue, and a genial warmth is diffused over the system.

SECTION II.

Of the Indications of Cure in Chlorosis.

From this view of the proximate cause the indications of cure will be,

1. To obviate the occasional causes of the disease.
2. To restore tone to the stomach and intestines.
3. To oxygenate the blood.

I. Hippocrates

I. Hippocrates and all his followers have observed, that in certain cases of chlorosis, marriage is the only cure. In other cases it is sufficient to change the air, take exercise, adopt a more generous diet, and to regulate the passions. It is thus that the first intention may be answered.

II. To answer the second intention we begin with an emetic, which may be followed by gentle cathartics to clear away viscid mucus from the first passages. For in chlorotic cases, this never fails to be collected, and when present, not only either causes or aggravates all the symptoms, as I have fully explained in treating hypochondriasis and in fixing the proximate cause of melancholia; but, by interposing a tenacious substance between the living fibre and the medicines received into the stomach, it effectually prevents a cure. This Van Swieten has well stated thus: *Dato prius leni vomitorio, vel purgante ex pillulis Ruffi vel similibus,* SABURRA MUCOSA *in primis viis hærens educitur ne aliorum medicamentorum efficaciam impediat.* Hoffman, to cleanse the stomach and the intestines from what he calls *crudidates*, *viscidæ*, *mucidæ*, *acidæ*, orders either vitriolated or tartarised kali to be frequently repeated: and if the bowels are not sufficiently cleared by these, he recommends myrrh, gum ammoniac, rhubarb, extract of wormwood, cinnabar, amber and salt of amber, in equal parts, of which two drams made into twenty pills may be given at a dose, either increasing or diminishing the quantity as occasion may require. Should the costiveness be obstinate, he advises the following:

℞ Mannæ Elect. ℥ij. Cremoris Tartari, ℥j. Rhei et Nitri, pur. ℥ss. Aq. font. ℥viij. M. f. H. m. s.

Manna two ounces; cream of tartar a dram; rhubarb and nitre of each half a dram; water eight ounces. To be taken in the morning.

To restore the tone of the stomach, Hoffman recommends an elixir to be made with myrrh, amber, saffron, orange peel, and the extracts of gentian, wormwood, carduus benedictus, and the lesser centaury, not in spirit, but in weak lixivium of tartar.

III. These bitters are certainly possessed of tonic powers; but

but to answer our third intention, the most efficacious medicine is *steel*, which, as the natural vehicle of oxygen, in chlorosis never fails to cure. Van Swieten, after clearing the intestines from mucous saburra, ordered a medicated wine with aromatics and steel filings, of which he elegantly says, *Dum his utitur ; incipit oriri major calor, levis quasi febricula ; quotidie incipit subsidere laxus partium omnium tumor et redit amœnus rubor in cute, labiis, et gingivis.* Hoffman had adopted precisely the same practice, and gives distinctly the same character of steel. The two forms preferred by him were iron filing sprinkled with rain water and exposed to the heat of the sun, till the whole becomes a rust ; and the other form is a martial tincture made with iron filings in cider exposed to the solar rays.

Dr. Griffith in this disease gave his myrrh and steel mixture according to the formula already mentioned under the treatment of phthisis.

My judicious friend Dr. Hamilton of Finsbury square, depends on steel filings, of which he gives twenty grains three times a day.

The formulæ 77, 78, and 82, of my Vade Mecum, are excellent in this disease, but in 77 the bark may be omitted.

All these pareparations will be rendered much more active if the patient inspires highly oxygenated air, and takes sufficient exercise ; for in this manner we most effectually oxygenate the blood.

Class IV. LOCALES.

LOCAL DISEASES.

THE distinctive character of this class is, Morbid affections, which are partial, and the orders are,

1. *Dysæsthesiæ.* 2. *Dysorexia.* 3. *Dyscinesiæ.* 4. *Apocenoses.* 5. *Epischeses.* 6. *Tumores.* 7. *Ectopia.* 8. *Dialyses.*

Of which the pathognomonic symptoms follow :

1. Dysæsthesiæ. The senses injured or destroyed by the imperfection of the organs.

2. Dysorexia.

2. Dysorexia. The appetites deficient or depraved.

3. Dyscinesiæ. Motion impeded or depraved from an imperfection of the organ.

4. Apocenoses. Superabundant flux of blood, or humours, without pyrexia.

5. Epischeses. Suppression of excretions.

6. Tumores. Partial swellings without inflammation.

7. Ectopia.

8. Dialyses. Solution of continuity.

Class IV. LOCALES.

Order I. Dysæsthesiæ.

The senses injured or destroyed by the imperfection of the organs.

In this order we have nine genera.

1. *Caligo.* 2. *Amaurosis.* 3. *Dysopia.* 4. *Pseudoblepsis.* 5. *Dysecœa.* 6. *Paracusis.* 7. *Anosmia.* 8. *Ageustia.* 9. *Anæsthesia.*

Genus LXXXIV. Caligo.

Darkness.

Sight diminished or destroyed by the interposition of a dark body between the object and the retina.

In this genus Dr. Cullen includes five species.

1. *Caligo lentis. Cataract.* The symptoms are, opacity behind the iris in the posterior chamber of the aqueous humour, to be discovered by inspection; the iris contracts by a strong light, and in the shade expands; vision is less perfect in proportion to the quantity of light reflected from an object; minute objects appear to be covered with a mist increasing in density, as the opacity extends.

The approach of the disease is announced by *muscæ volitantes.*

This opacity may be either in the crystalline lens itself, or in its capsule; or it may arise either from a membrane formed in the posterior chamber of the aqueous humour, and therefore easily to be distinguished by inspection, or from portions of inspissated pus floating in the aqueous humour.

humour, and moveable by the slightest inclination of the head. The latter constitute the spurious cataract; the former only is the genuine.

The occasional causes of cataract are commonly external violence, sudden exposure to great heat after cold, and to strong light after obscurity. From these last circumstances it may perhaps arise, that cataracts abound in Spain, more especially at Madrid, where my friend Gimbernat extracted more than a hundred in one year. In addition to these causes we may remark from Lommius, as quoted by Hoffman, that in some cases cataract originates from affections of the stomach, and this seems to be rendered probable, when head ach precedes a cataract.

In some cases the lens has spontaneously recovered its transparency. Mr. Wathen mentions two cataracts in one patient having been thus dispersed, after continuing 18 years. It is well known, that the capsule is absorbed after a cataract has been extracted, and that after couching, nature sometimes excites the action of the absorbents to carry off, as an extraneous body, the cataract itself. The same effect is often produced by external inflammation of the eye, and for this reason it is that cataracts occassioned by contusion are more frequently absorbed, than those which proceed from constitutional affections. Sometimes indeed it happens, as in the case of one of our princes, that from external inflammation the absorbents carry off both the crystalline and the vitreous humour, leaving only a bag of water.

It was upon this principle that my friend Wathen Phipps, to cure a cataract, which it was not proper to extract, excited violent inflammation in the eye by means of corrosive sublimate, and thus caused the diseased lens to be perfectly absorbed. His grandfather records a case, in which the operator being obliged to desist because he could not fix the eye; in about a fortnight from that time the patient began to see a little, and in less than a month perfectly recoved his sight.

As to the medical treatment of cataract little can be said. It has certainly been cured by electricity. As this effect

effect must in all cases have been produced by the absorbents, calomel, which excites their action, seems to promise some relief, but I do not recollect having seen it tried.

When medicines fail, the only hope is from extraction. In such circumstances the first point to be determined is its fitness for the operation, on which we are assisted in our judgment by the publications of Mr. Wathen, who in this line is the most experienced practitioner in Europe. He observes that if the eye can discern a bright light, and if on sudden exposure to light the pupil contracts, if the eye retains its natural size and figure, if the cataract is not red, blue, yellow, brown, or of a snowy whiteness, but of a pearl or light grey colour, and if it was preceded not by sensations like those produced by flies moving before the eyes, but by a mistiness hanging over objects and increasing with the disease: in these circumstances the cataract is in a fit state for operation, but in opposite circumstances the case must at least be doubtful.

As to the mode of operation, I shall not here repeat, what in his works he has clearly pointed out, but having had frequent opportunities of seeing him extract, I am decidedly of opinion, that no country practitioner should ever presume to undertake the operation, nor any chirurgeon, even in great cities, who is not almost in the daily habit of performing it.

2. Caligo *Corneæ*. The cornea is composed of many lamina, which are liable to be separated by stagnant lymph, and this according to the quantity may produce either semi-pellucid specks, or perfect and complete opacity. Specks may be removed with safety by means of lapis calaminaris and sugar in equal parts, either blown upon them through a small quill, or applied with a pencil brush. The leucoma, if extensive, may require cathartics with calomel to excite the action of the absorbents, and astringent applications to the part to brace the relaxed vessels.

An *hernia* of the cornea, with prolapsus of the uvea, called *staphyloma*, requires astringents. M. Gimbernat, of Madrid, has cured many by dropping three times a day

a few drops of a very strong cold infusion of myrtle leaves into the eye, keeping the bowels soluble by cooling cathartics, and making the patient avoid spices, spirits, and whatever increases the motion of the fluids.

Sometimes the cornea is suffused with blood, when there are no symptoms of inflammation, as may be seen in scrophulous subjects. In this case our dependence must be on tonics and astringents externally and internally applied.

Excrescences from the cornea may be taken off by a thread, by the knife, or by an escharotic, which may be composed of sugar, ten grains, to one grain of alum finely powdered ; after which the eye must be washed for some days with brandy and water, then with the following astringent collyrium.

℞ Zinci vitriolati, ʒj. Aq. Rosar. ℔j. M. f. Solutio. Cola. White vitriol a dram, dissolved in a pint of rose water and filtrated.

Or the following, adopted from the Germans, may be perhaps preferred :

℞ Margarit. ℈j. Cerussæ acetat. gr. vj. Zinci vitriolati, gr. iij. Aq. Rosar. Aq. Plantaginis, aa. ʒj. M.

Mother of pearl one scruple; sugar of lead six grains; white vitriol three grains; rose water and plantain water, of each one ounce.

3. Caligo *pupillæ*. The closing of the pupils, which may be occasioned by inflammation of the iris.

4. Caligo *humorum*. This may be produced either by effusion of blood, of pus, or of milk, as mentioned by Haguenot, into the chambers of the eye ; by deficiency of aqueous humour ; by its morbid abundance, as in dropsy of the eye ; or by dissolution and disorganization of the vitreous humour, which is the *amaurosis à synchisi* of Sauvage.

5. Caligo *palpebrarum*. In this species the eye lids may be fixed to the eye by the adhesive inflammation ; or the two lids may be united by the same process ; or the superior lid may be closed either by palsy of the muscle, called *elevator* palpebræ superioris ; by tubercles and warts thickening the membranes ; by fleshy excrescences, by steatomatous tumours, or by cancer.

These five include the twenty species of Sauvage, not excepting his caligo *venerea*, although unnoticed by Dr. Cullen.

Cullen. True it is, that the infants of prostitutes and of women infected with the lues, often suffer blindness; but then this blindness is not of any particular species, for it may arise either from cataract, or from morbid affections, either of the cornea or of the humours of the eye.

Genus LXXXV. Amaurosis.

Gutta Serena.

Sight diminished, or destroyed, without visible injury to the eye: the pupil mostly dilated and immoveable.

SECTION I.

Of the History of Amaurosis.

Amaurosis sometimes comes on suddenly, more especially if produced by violence, whether by concussions or by wounds. Sometimes the sight is gradually lost, as in old people and in paralytic subjects. Sometimes again the gutta serena is periodical, rapid in its progress, and continues only for a few hours or days, after which it suddenly and spontaneously departs, yet frequently returns, as may be observed in hysterical and in parturient women. Sometimes we find it associated with head-ach, vertigo, sleepiness. and singing in the ears: at other times it appears unconnected with these symptoms.

It is commonly preceded by the appearance of dust, cobwebs, and flies, called *muscæ volitantes*, and when recent, has vision clearest in a strong light.

SECTION II.

Of the Proximate Cause of Amaurosis, and Distinction into Species.

The proximate cause of amaurosis is interruption of the nervous influence in the optic nerve or retina, which may be either perfect or imperfect.

Sauvage enumerates seventeen species of this disease; but Cullen, transferring two of these to *caligo pupillæ*, where certainly *amaurosis a synchisi* should not be placed, has included the other fifteen in his own four species, viz.

1. Amaurosis

1. Amaurosis *compressionis*. 2. Amaurosis *atonica*. 3. Amaurosis *spasmodica*. 4. Amaurosis *venenata*.

Without particularly stating my objections to his second and fourth species, as being included in the third, I shall only make some observations on his first.

The *pressure*, forming his specific character, may be either on the thalami of the optic nerves, or on the nerve itself in any part of its extent, and may be made by exostoses produced by the syphilitic virus; by steatomatous, or scrophulous tumours; by calculi, as noticed by Bonet; by *lymph*, as happens after serous apoplexy and palsy; by *blood*, either extravasated or in its proper vessels, as happens either from external violence, or from internal causes, as after acute fevers and the sanguine apoplexy.

This *pressure* on the optic nerve by distended vessels may arise from a strong determination to the head, which may be caused by *spasm*, and this again may be occasioned either by poisons or by any acrid matter, particularly in the alimentary canal. What numerous causes have we here, each requiring a specific mode of treatment to itself! yet all are included in one species!

Surely these observations are sufficient to evince the impropriety of the distinctions made by Dr. Cullen. I shall therefore venture to suggest a more natural division, and shall endeavour to establish the following species.

1. Amaurosis *sanguinea*, related to the Pyrexiæ, has symptoms of plethora, and frequently begins with deep seated pain in the head, or distressing weight at the bottom of the eye. It follows acute fevers and the *sanguine apoplexy*, and it is frequently occasioned by violent concussions, such as may produce extrasavation of the blood, whether by blows, by falling from a considerable height, or by sneezing. It may likewise be occasioned by anger; by violent muscular exertion, as in parturition; by the hot bath; or by whatever causes a determination to the head. On dissection the arteries in the orbit of the eye have been found exceedingly distended, and extravasations of blood have been discovered compressing the optic nerves in patients who had suffered by amaurosis.

This

This species comprehends the first and fourth species of Sauvage, which are his *traumatica* and *plethorica*.

2. Amaurosis *spasmodica*, related to the NEUROSES, has symptoms of debility and irritability. It follows convulsive and spasmodic affections, and is peculiarly the disease of *hysterical* and *epileptic patients*. It has been observed to attend intermittents, atonic gout, and hemicrania, which came on after child birth. It is often occasioned by colic and constipation of bowels, particularly by colica pictonum, by the irritation of calculi in the kidneys, and by stoppage both of the hæmorrhoidal and of the menstrual flux. It is likewise consequent on the sweating of the feet inprudently repressed, on the exanthemata repelled, or any herpetic eruptions checked; and it is particularly induced by excessive indulgence in the most exhausting of all sensual pleasures. It is said to be occasioned also by application of stramonium to the eyes.

This comprehends eight species of Sauvage, among which we find his *amaurosis a spasmo*, caused by spasmodic constriction of the *annulus moderator* of Valsalva. This ring is formed by the four strait muscles with the obliquus major, all which arise from the bottom of the orbit, and together embrace the optic nerve. The cause here assigned is certainly adequate to the effect produced. But besides this we must recollect, what has been delivered in the preceding volume, on spasmodic stricture, as tha occasional cause of *apoplexy*; and more particularly what I have said upon the subject, when accounting for the determination to the brain in *mania hysterica*.

3. Amaurosis *serosa*, related to the CACHEXIÆ, has symptoms of relaxation, debility, and torpor. It is indeed a genuine CACHECTIC disease, arising from morbid affection of the lymphatic system, being produced either by increased action of the exhalants, or by diminished action of the absorbents. It is the disease of hydropic habits, and attends *apoplexia serosa*. I need scarcely add, that it is occasioned by poverty of diet, exhausting diseases, hæmorrhages, anxiety, protracted grief, hard study, vigilance, the application of cold after exercise, by dram drinking, and by every kind of intemperance.

This

This species is the *amaurosis pituitosa* of Sauvage.

4. Amaurosis *organica* has none of the preceding symptoms, or at least not as connected with this affection of the eye.

It is occasioned commonly by external violence, such as wounds dividing the optic nerve itself, or by such effulgency of light as may be sufficient to change the organic structure of the retina. But Bonetus discovered the optic nerves atrophic and wasted to half their usual size, which must have arisen from some internal cause, and my friend M. Gimbernat in the place of the retina had once occasion to observe a bony substance, which must have been either an incrustation, or the ossification of that medullary expansion of the optic nerve, produced by the same process as ossifications in the brain. M. Gimbernat has preserved this curious production in his Museum at Madrid. Hydatides have been discovered by Boerhaave on the retina, and exostoses very frequently produced by the venereal poison, are apt to press upon the optic nerve.

Sauvage discovered by dissection strumous glands incumbent on the optic nerve, and various tumours producing the same effect have been noticed by Hoffman.

As to the *amaurosis foricariorum* of Sauvage, I know not where to class it, nor do I believe that the nocturnal scavengers of London are acquainted with this wonderful disease: yet such is the authority of Ramazzini, from whom Sauvage has adopted it, that I cannot doubt of its existence. As however it is sufficient for these men to cover their eyes with glasses in order to avoid the dire effects of their needful, although humble, occupations, we need not be very anxious to discover the pathology of this disease.

SECTION III.

Of the Indications of Cure im Amaurosis.

These must depend on the nature and cause of the disease, for no medicine has ever been discovered, which can cure indifferently every species of the same disease.

I shall therefore consider what is the proper mode of treatment in the several species of amaurosis.

1. Amaurosis *sanguinea.*

The indications of cure are precisely the same as in *apoplexia sanguinea*, to which I must refer the student. It is for this reason that Hoffman, if the pulse admits of such evacuations, recommends bleeding, by leeches applied to the temples, by the lancet from the feet, or, in preference to both, either from the frontal vein or from the temporal artery. With the same view of diminishing pressure in the brain, he advises to cleanse the first passages by cooling and most gentle cathartics, and the great intestines by carminative clysters. With these remedies he enjoins strict temperance.

2. Amaurosis *spasmodica.*

The indications of cure are the same as in palsy and epilepsy, which the student may consult.

We must here be particularly careful to obviate, first the occasional, then the predisponent cause of spasmodic affection. If, as very often happens, there is irritation in the alimentary canal, it must be removed by gentle cathartics and carminative clysters. If the irritation should be from the hæmorrhagic effort in the uterine vessels, nature must be assisted by emmenagogues of the antispasmodic order combined with tonics. If from atonic gout, attention must be paid to that disease. If the stimulus is mental, the angry passions must be restrained. If the sweating of the feet has been repressed, if exanthemata have been repelled, or if herpetic eruptions have been checked; the same treatment must be adopted, as recommended by Hoffman in his *tussis ferina*, which is to be found in my section vi. of *catarrh.*

Hoffman particularly recommends calomel with balsamics and corroborants, which in many cases obviate both the remote causes of the disease.

Dr. Collin of Vienna, since the year 1773, has introduced the *arnica montana* to the notice of physicians, as a powerful tonic in cases of amaurosis, and some of my friends in Spain have proved its efficacy. He gave from two drams to half an ounce infused in boiling water, with an ounce of syrup of maiden hair, *Cadianthum capillus*

pillus veneris) for a dose, and he assures us, that in nine cases it perfected the cure. As it is a penetrating aromatic bitter, it promises to be a valuable acquisition in a variety of spasmodic affections.

Electricity is of all antispasmodics, the most speedy in its operation, and in cases of amaurosis has very frequently been found effectual. Mr. Wathen and Mr. Phipps have cured many patients by that means.

A generous diet is admissible in this disease, yet every species of intemperance must be carefully avoided. The patient must shun the extremes, and the sudden alternations of heat with cold.

3. Amaurosis *serosa*.

The indications are precisely the same as in *apoplexia serosa*. Emetics, cathartics, diuretics, blisters, setons, and sternutatories, are highly proper, and may be followed up with spirit. The absorbents may be excited to action by calomel, and particularly by superoxygenated air. Of this I have been witness in the practice of my friend Dr. THORNTON, more especially in the case of Patterson.

4. Amaurosis *organica* admits of no relief.

Genus LXXXVI. DYSOPIA.

SIGHT depraved, requiring one certain quantity of light, one particular distance or position.

Dr. Cullen has five species. 1. Dysopia tenebrarum. 2. Dysopia luminis. 3. Dysopia dissitorum. 4. Dysopia proximorum. 5. Dysopia lateralis.

These coincide with as many species of *amblyopia* in Sauvage; but as with these this learned professor has associated two others which evidently belong to different genera, Dr. Cullen has remitted one of them to caligo, the other to amaurosis.

1. Dysopia *tenebrarum*, in which objects to be seen require the strongest light.

This species Sauvage informs us was epidemic in the vicinity of Montpelier, chiefly near the rivers, where soldiers in particular, who mounted guard by night, were the first to suffer.

It

It was cured by evacuants, such as emetics, cathartics, diuretics, diaphoretics, blisters, and bleeding.

Boerhaave mentions a variety of this species arising from contraction and immobility of the pupil, which he considered as incurable.

2. Dysopia *luminis*, in which objects to be seen require obscurity.

This must arise from extreme sensibility of the retina, as in cases of inflammation, with a peculiar conformation of the iris. When it arises from inflammation, the cure is obvious.

3. Dysopia *dissitorum*, near sightedness.

4. Dysopia *proximorum*, in which near objects are indistinctly seen.

These require the aid of the optician.

5. Dysopia *lateralis*, in which objects to be seen require an oblique position.

This may arise, 1. From the obliquity of the pupil. 2. From want of transparency in some part of the cornea. 3. From obliquity of the crystalline. 4. From want of sensibility in a part of the retina. 5. From the habit of squinting, in which case alone relief can be expected. This, according to circumstances, may be obtained either by proper spectacles or by a proper mask.

Genus LXXXVII. Pseudoblepsis.

Sight depraved, creating imaginary objects, or representing them different from what they are.

Sauvage has entered fully into this most curious subject, and in his two genera of suffusio and diplopia, has taken notice of all the optical deceptions which arise from morbid affections of the eye. But as these may be regarded chiefly as symptomatic of some primary disease, I shall not here repeat his observations. They most commonly attend either fever or spasmodic affections, and then originate in preternatural determination to the brain. In the first case the proper remedies are the tepid pediluvium, bleeding, carminative clysters, refrigerant cathartics, and every part of the antiphlogistic regimen.

But if the determination to the head arises from spasmodic affection, the principal attention must be to remove the stimulating cause, then to invigorate the general habit.

If the eyes have been fatigued by nocturnal studies, or distressed by immoderate effulgence, they must be permitted to repose, and the tonic plan must be pursued.

Genus LXXXVIII. Dysecoea.

Hearing diminished or destroyed.

SECTION I.

Of the Causes of Deafness.

1. The *meatus auditorius externus* may be closed by —*a*. Inspissated wax, which sometimes acquires the hardness of a stone.—*b*. Membrane formed in the meatus, which may be rendered thicker by collecting wax.—*c*. A fleshy excrescence or polypus succeeding an ulcer.—*d*. Swelling of its glands.—*e*. Extraneous bodies.

2. The *membrana tympani* may be morbidly affected by —*a*. Relaxation, which may be occasioned by humidity, or by the discharge of ulcers.—*b*. Preternatural tension. In this case the persons hear best in damp and foggy weather.—*c*. Becoming callous or even long, as happens to other membranes.—*d*. Rupture, occasioned either by external and mechanical violence ; by the concussion of loud sounds, or from within, through the Eustachian tube, by sneezing : or the solution of continuity may be occasioned by acrimonious pus.

3. In the *tympanum*.—*a*. The small bones may either lose their power of motion by adhesive inflammation, or may be destroyed by caries.—*b*. The muscles serving for the motion of these bones may be morbidly affected either by spasm, by palsy, or by inflammation and suppuration, which is the more readily induced because of their connexion with the Eustachian tube.—*c*. Next to wax in the auditory passage, the most common cause of deafness is obstruction in the *Eustachian tube*. When I was in Edinburgh, Mr. Braidwood, now of Hackney, was there, teaching the deaf and dumb to understand and speak. He

He had then about twenty scholars, who were all born deaf. Upon examination, I discovered that in the major part of these the Eustachian tube was closed. In violent fevers this effect is very frequently produced by inflammation, as happened to the patient whose case of bilious autumnal fever has been related. Sometimes the tube is closed by viscid mucus, as in catarrh, on the going off of which the hearing is suddenly restored, and the passage is opened by a loud and surprising snap. It often happens that venereal virus either produces exostoses in the bony part of the tube, or ulcers, with the adhesive inflammation in the muscular part, and the passage is obliterated. It is sometimes closed by polypus.

4. The *internal ear* may be morbidly affected—*a*. By redundance or deficiency of aqueous fluid in the labyrinth—*b*. By inflammation and suppuration of the periosteum.—*c*. By caries of its bones.

5. The *auditory nerves* are subject precisely to the same affections as the optic nerves; and for these, therefore, I must refer the student to what I have said on *amaurosis*.

SECTION II.

Of the Cure of Deafness.

1. When we are to examine the patient, who complains of deafness, we must begin with the external ear, and for this purpose we must contrive to throw a sun beam into the *auditory passage*. Should this be obstructed by extraneous bodies, they must be extracted; if by inspissated wax, which is most frequently the case, it must be softened, either by ox gall, lime water, oil of bitter almonds, or by warm milk, with four drops of aqua kali; then washed, by injecting frequently either lime water or sage tea with honey. The ox gall or oil must be put into the ear at night, and the passage must be syringed the next morning. The syringe should have a silver pipe with numerous perforations at the end, some lateral, others oblique, but none direct, lest the membrane of the drum should be mechanically injured. After injecting this infusion, the ear must be kept warm, and no cold liquids

liquids must be drank. This operation must be repeated every day, even for a month, or till the wax is cleared away.

If there is a superfluous membrane, it must be pierced, if a polypus, it must be extirpated, either by ligature, by the knife, or by a caustic, which may be introduced by means of a tent thrust through a canula adapted to the ear.

If the glands are swelled, a few drops of oil of almonds with camphor, will allay the pain, and gentle cathartics, with small does of calomel, will reduce them. Should they suppurate, a decoction of barley and agrimony will cleanse the ulcers.

2. If the *membrana tympani* is relaxed, the hearing will be worst in foggy weather, and will be quickened in a time of frost. For this tonics externally and internally applied are proper; such as cold bathing, cool air, exercise, a generous diet, bitters, bark, and steel, and a cold infusion of tormentil may be injected into the passage of the ear, once every morning.

Should this membrane be affected with preternatural tension, oil of almonds may be dropped into the ear at night. When we suspect that deafness arises from laceration, or from erosion of the membrana tympani, the person must be made to take a full inspiration of air into his lungs, then stop his nostrils and his mouth, and endeavour to expire. Should air escape by his ears, we may be certain that we have discovered the cause of deafness, and need look no further.

3. To discover whether one or both the Eustachian tubes are closed, let the expedient mentioned in the preceding section be resorted to, and if they are open the air will be felt pressing the membrana tympani. If nothing is felt, the tubes are closed. Diemerbroeck remarks, that when these tubes in catarrh are closed by mucus, if you stop both ears, and with a stick between your teeth, strike the strings of a musical instrument, you hear no sound, and that by this method he examined his patients; but the preceding trial will be fully sufficient for our purpose.

If the Eustachian tube is closed by mucus, it will be proper to try *sialagogues*, followed by cephalic snuff, or some

some more efficacious sternutatory, which may be found in the class *errhina* of my Vade Mecum. Should these prove insufficient, a proper catheter may be introduced into the tube through the nostril, as Dr. Monro, of Edinburgh, has practised.

4. The diseases of the *internal ear* are not easily distinguished; but these, it is apprehended, very seldom happen, because the parts are far removed from injury. When however the muscles or the membranes participate in the general affections of the system, the general treatment will extend its beneficial effects to them.

5. Affections of the *auditory nerve* are, perhaps, as common as those of the optic nerve; but unfortunately, they are not so readily distinguished. In *amaurosis* we can have little room to doubt, because when there is no visible injury, when the parts are all transparent, and when the pupil is dilated and immoveable, it is evident, that there must be obstruction of the nerve; but in the ear all the internal parts are hid.

If, however, either apoplexy, palsy, epilepsy, vertigo, head ach, or loss, or even imperfection of and other sense has either immediately preceded, or attends the deafness, we may have reason to suspect that there is pressure on the nerve.

This pressure on the auditory nerve may be produced by—*a.* Blood, and may arise from either pythora, and therefore require evacuants, with a vegetable diet, and constant exercise; or it may be induced, as it very often is, by spasmodic affection and determination to the head, which may be either permanent or periodical, and may return either regularly or at uncertain intervals. In these cases the same treatment precisely is required as in *amaurosis sangninea* and *amaurosis spasmodica*, to which I must request particular attention.—*b. Serum*, with symptoms of relaxation, debility, and torpor, as in *amaurosis serosa*, and in *apoplexia serosa*, under which the proper treatment will be found.—*c. Steatoma*—*d. Exostosis*, which, if produced either by scrophula, or by the venereal virus, will require the same remedies as have been ordered in those diseases.

SECTION

SECTION III.

Cases of Deafness.

Case I.

A girl who had been deaf for many months, was at the same time pale, low spirited, and complained of deficient catamenia. After taking hyoscyamus albus daily for six weeks, she perfectly recovered her hearing, her colour, and her flesh. She began with one third of a grain, and gradually increased the doses to seven grains a day. See Sauvage, Vol. I. p. 753.

Case II.

A lady, aged 60, of a strong constitution, yet subject, when costive, during seasons of rain, to heaviness and pain in her head, with some degree of deafness, was suddenly seized with total loss of hearing in the left ear, and difficulty of hearing in the right. By the advice of Hoffman, she took a dram of rhubarb with an ounce of coffee, made into an infusion, which was repeated at intervals, and she put a clove of garlic alternately with a few drops of essence of colocynth and musk into her ear. By these means her hearing was restored. Had they failed, the professor would have ordered a few grains of ammonia pp. with a small quantity of castor, to have been put into the ear.

Case III.

A veteran professor, who for 16 years had lost the hearing of his right ear, fearing the same misfortune for the left, applied to Hoffman, who, finding his bowels constipated, ordered cathartic pills. These, among other ingredients, were composed of calomel, cinnabar, aloes, jalap, and salt of amber, with Peruvian balsam. But the good old man, wrapped up in the profoundest meditations as he walked, instead of one scruple, consisting of fourteen pills, took the whole quantity prescribed, being no less than 120 pills. In less than two hours he had excruciating pain in his intestines, with nausea and frequent faintings; yet he had only four motions: violent spasmodic pain in the right side of his head, more particularly of the ear, succeeded, and raged to such a degree as to deprive him of rest. This was however followed by a dreadful explosion, like the discharge of a cannon, which removed the pain, and his hearing perfectly returned.

Case IV.

A military præfect, in the vigor of youth, having taken cold during a mercurial salivation, lost his hearing altogether, and complained of a weight in his head. After two months, the Prince of Orange sent him to Hoffman, who ordered the following cathartic:

Gum ammoniac, rhubarb, aloes, calomel, cinnabar, of each half a dram; salt of amber, saffron, castor, of each twelve grains; Peruvian balsam, sufficient to make a mass of pills, one scruple of which, made into twenty pills, was taken every other day.

With this he ordered a sparing diet, abstinence from wine, and the warm pediluvium twice a day. He put a blister to the nape of the neck,

neck, gave him a sternutatory powder, and put cotton, with a few drops of what he called his balsam of life, into the ears. By this means his hearing was restored.

Case V.

A Dutch count, aged 69, of the sanguine temperament, much disposed to anger, temperate, robust, and accustomed from his youth to the fatigues of hunting and of war, complained of vertigo, more especially in going down stairs, with great weakness of head, and pain in the cervix after deep meditation, or any remarkable intensity of thought. His mouth and lips were inflated and distorted, his hand trembled when he wrote, and the left side of his face was spasmodically affected. His left eye was inflamed, and on his tongue he had some pustules, which distressed him with a burning heat. His hearing was almost destroyed, but that of the left ear was much the worst. He had been suddenly seized with the paralytic affections about a year and an half before, on returning home, after having been exposed to humidity and cold. In other respects the count was vigorous, rode a hunting, and performed all the functions of life with ardour. Yet his alacrity was greatest after meals, and after dinner he could both write without tremor, and indulge intensity of thought without feeling any remarkable weakness in the head.

It must be added, that he had been accustomed formerly to bleed frequently in the foot, but that latterly he had lost blood by the arm only, twice a year, at the equinoctial periods, and that he had formerly been open in his bowels, but now complained of costiveness.

Hoffman, attributing, as he informs us, *the paralytic affection, the vertigo, the deafness, and the distressing weakness of the head after intensity of thought*, to one and the same cause, a superabundance of serous fluids, and being persuaded *that a determination to the head was supported by constipation of bowels*, ordered such cathartics as, considering the age of his patient, he could venture to prescribe. These were rhubarb, salt of tartar, crocus of antimony, and crab's claws, given twice a week. He ordered oil of amber with aqua ammoniæ, and what he calls tinctura tartari, to be taken twice a day. The result of this curious case is not communicated.

Genus LXXXIX. Paracusis.

Dr. Cullen has two species; 1. That in which sounds are heard, but not with the usual conditions. 2. That in which the sensation is excited by internal causes. But Sauvage of these makes two genera, *paracusis* and *syrigmus*; the first containing four, the latter eleven species, of which I shall here take notice.

1. P. *barycoia* is the affection in which loud sounds create confusion in the hearing. It is attributed to rigidi-

ty

ty and rheumatic affection in the muscles, which move the malleus and the stapes.

2. P. *oxycoia* is confusion of hearing, arising from extreme sensibility and intolerance of sounds, which is induced by inflammatory and spasmodic affections. The marchioness Parisina, labouring under cephalalgia and hysteric cough, was so distressed by the voice of her attendants, that not only the pain of her head increased, but it extended to her chest; and her *cough* was wonderfully aggravated. Some patients are thrown into convulsions, or become delirious, even by the slightest sounds.

3. P. *duplicata.* Double hearing.

A musician, who excelled upon the German flute, walking in a cold rain, at night, was seized with a catarrh, in consequence of which, when playing the flute, he heard a double sound, isochronous, but not in harmony, and therefore so offensive, that he was obliged to lay aside his flute. This symptom ceased with the catarrh.

A similar case continued for many months.

4. P. *Willisiana.* This species requires loud noises to assist the ear in distinguishing articulate sounds. Dr. Willis records four cases, one of which required a drum to be constantly beating. One deaf person heard well in a carriage, and another when the bells were ringing near him.

Sauvage, as I have stated, enumerates eleven species of *syrigmus*, in which imaginary sounds of different kinds are excited by internal causes. The principal of these it will be sufficient merely to enumerate :

1. S. *criticus.* 2. S. *a debilitate.* 3. S. *plethoricus.* 4. S. *cephalalgicus.* 5. S. *catarrhalis.* 6. S. *vertiginosus.* 7. S. *a ventriculo.* 8. S. *ab oxycœa.*

His three other species, *sibilus*, *susurrus*, and *bombus*, make part of the generic character, and therefore should not appear as species.

When this disease is so distressing as to require medical assistance, we must determine whether it is connected with the PYREXIÆ or NEUROSES; whether it is a symptom of the sthenic or of the asthenic diathesis, that we may know how to treat it.

If

If the patient is athletic or plethoric; if the pulse is full, hard, frequent, and strong in the carotid arteries; if his distress increases when he is recumbent and warm in bed; if it is attended by vigilance, by pain in the head, and by other inflammatory symptoms; if it has been relieved by hæmorrhage; it is connected with the PYREXIÆ, and requires evacuants, with the antiphlogistic regimen:

But if the patient is of a relaxed and irritable habit; if he has been exhausted by previous diseases, or by any species of intemperance; if he has suffered by hæmorrhages or excessive evacuations of any kind; if he is reduced by penury; if he has been subject to hysterical, epileptic, or other nervous diseases, it is connected with NEUROSES, and requires chiefly cordial stimulants, with tonics and astringents:

If again, we find it connected with *spasmodic* affection, it will be needful, not merely to obviate, as above, the predisponent cause, but to remove the occasional causes, either by anthelmintics, by emmenagogues of the tonic and antispasmodic orders; or by cleansing the first passages, whether with emetics or gentle cathartics, assisted by carminative clysters, all which will relieve effectually the determination to the head, as I have fully stated under *mania hysterica*.

Genus XC. ANOSMIA.

Smell diminished or destroyed.

THE power of smelling may be diminished or destroyed, precisely as the sight and hearing, by pressure on their respective nerves; by extreme dryness of the pituitary membrane, or by its being covered with mucus; by polypus, obstructing the passage of air into the nostrils; and by destruction of the parts, whether it be by ozœna or by caries. From these circumstances Sauvage has derived his species, which it will be sufficient to enumerate:

1. A. *catarrhalis*. 2. A. *ab ozœna*. 3. A. *a polypo*. 4. A. *syphilitica*. 5. A. *verminosa*. 6. A. *a siccitate*. 7. A. *paralytica*.

The treatment must be taken from the primary disease.

Genus XCI. Ageustia.

Taste diminished or destroyed.

The pathology of this affection appears to me to have been universally misundertsood. That the tongue is not the organ of taste will appear from hence : that if the nostrils are closed, or if the velum pendulum palati is drawn up, so as to prevent the free current of air by that passage, the taste of whatever is taken into the mouth will be prevented ; or if the tongue is protruded, and a sheet of paste board is interposed between the part protruded and the nostrils, sapid substances may be placed upon the tongue without exciting any taste.

Hence it is that the smell and taste are so intimately connected, as they are universally observed to be ; and hence it follows, that whatever affects the former will equally affect the latter, and that the diseases are the same in both.

Genus XCII. Anæsthesia.

Loss of Feeling.

Sauvage enumerates four species :

1. Anæsthesia *ab spinâ bifida.* Of this he saw six cases, in the space of ten years, at Montpellier. To such an authority I bow down with reverence : but certainly it is not a common symptom of the disease, nor, unless I am much mistaken, is it mentioned as such by either Morgagni or by Haller.

2. Anæsthesia *plethorica.* This he takes from Ludovici, and upon the authority of that author it must rest ; but I can scarcely conceive how a few drops of blood taken from the ranula should obviate plethora, and restore universal feeling to the nerves.

3. Anæsthesia *nascentium.* This seems to be *asphyxia.*

4. Anæsthesia *melancholica.* The singular case here recorded by Sauvage is most remarkable, both for its symptoms and its cure: but as no reason is assigned for inoculating this patient with the itch, it seems to be imperfectly related.

Class

Class IV. LOCALES.

Order II. Dysorexiæ.

The Appetites deficient or depraved.

In this order we have eight genera:
1. Bulimia. 2. Pica. 3. Polydipsia. 4. Satyriasis. 5. Nymphomania. 6. Nostalgia. 7. Anorexia. 8. Anaphrodisia.

Genus XCIII. Bulimia.

Appetite for Food voracious or canine.

A voracious appetite may be occasioned by inanition, as happens to those who are exhausted either by long fasting or by disease. It may arise also from an acid in the stomach; from a superabundance of gastric juice; and from indigested sordes. Or it may be produced by worms. And when there is more than common irritability in the nerves of the stomach, the food may be speedily rejected. These symptoms are commonly increased by external cold, when it is not extreme.

The proper remedies, according to the nature of the cause, may be absorbents; fat meats, oils, butter, wine, brandy, tobacco, opium, spices, iron, emetics, anthelmintics, bitters, and Peruvian bark.

Genus XCIV. Pica.

Appetite depraved, with strong Desire for unnatural Food.

Of this Sauvage enumerated six species, five of which Dr. Cullen has mentioned, without however giving them his sanction. The longings of pregnant women are whimsical, capricious, and not in the least to be accounted for; but the depraved appetite of children for absorbents, of chlorotic virgins for the same, for spices, and for the most sapid substances, may be considered as the voice of nature. The same may be said of the cravings we frequently observe in sick people, which Dr. Whytt was always ready to indulge. Every practitioner must have met with

with instances of these. They are indeed innumerable. Such desires are instinctive, like those of brutes, which always guide them right.

In children and chlorotic virgins, the cause of pica must be sought for in the alimentary canal, and the cure will be found in emetics and gentle cathartics, followed by bitters, bark, and steel, with a generous diet, fresh air, and constant exercise. To relieve this disease, no medicine can excel the cachectic *Powder of Hartmann*, recommended by Sauvage. It is composed of crab's claws, steel filings, cinnamon and sugar.

Genus XCV. Polydipsia.

Excessive Thirst.

Polydipsia is seldom seen as an original disease. Yet one instance I have met with, in the sister of Mrs. Tudor, at the Crown Inn, Reading, who is otherwise in perfect health.

Thirst is commonly symptomatic of fevers, fluxes, dropsy.

It attends every kind of evacuation, when excessive, being the voice of nature calling loudly for liquids, to supply the deficiency caused by this discharge.

When the fluids are thickened, so as not to pass freely through their proper vessels, nature becomes impatient for a fresh supply of diluents; and when acrid substances have either been received into the stomach, or generated in the first passages, she pleads powerfully for aqueous fluids to wash them speedily away. Thus it is commonly, when spices, spirits, alcaline substances, salted meats, or rancid oils in considerable quantities, have been taken into the stomach, and thus more particularly in case of poisons.

The most common cause of *thirst* is heat, to diminish which, if excessive, as happens after strong exercise, and in fevers, a copious perspiration is required, and a plentiful supply of aqueous fluids to support that discharge. Nature then calls for cold liquids, rather than for warm, and for acescent drinks, rather than for such as contain ardent

ardent spirits. In such circumstances, as Dr. Brown has most judiciously observed, wine increases thirst, and excites both nausea and vomiting; whereas in hysteria, typhus, and all cases of debility, water augments the thirst, which is thereby hurried on to nausea and to vomiting, but effectually relieved by wine or spirits.

The reason for these distinctions I have already sufficiently explained.

The pathology of polydipsia, as an original disease, has never been explained; nor, as far as my recollection goes, has it ever been removed by medicine.

Excessive thirst, when symptomatic, must be cured by curing the primary disease.

Genus XCVI. Satyriasis.

Excessive and violent Desire for Coition in Men.

If the student recollects what I have delivered on irritability, stimuli, and habits, he will fully comprehend the nature of the disease in question, and will quickly understand why it is seldom if ever seen among the laborious peasants of country villages; whilst it is the scourge of indolence, intemperance, and vice, in cities.

Morbid irritability is the predisponent cause of satyriasis, and this we know is founded in debility, which is increased by every species of intemperance; but more particularly, and to a most astonishing degree by that, to which the disease itself is constantly inciting.

The occasional causes are to be sought for in mental and material stimuli, in wine, too great an abundance of animal food with spices; but, above all, a diseased imagination, heated by vicious company and conversation, or by improper books.

If the student will consult what has been said on the *vesaniæ*, particularly on *dreaming* and *delirium*, he will see that mental stimuli are both more permanent and violent than the material. When therefore the imagination itself is become the seat of this disease, the symptoms will be rendered most distressing.

As to the method of cure, we cannot do better than to

to adopt nearly the plan referred to by Sauvage, which proved successful in two cases. It began by moderate emetics; then the patients took milk, sulphur, æthiops mineral, and cinnabar of antimony, with benzoine and ammonia. The diet was moderate, being confined to four ounces of animal food, and a small quantity of wine per day. But the most essential part of the cure, as it should seem, was that which followed; viz. bark, orange peel, and vitriolated iron, with the cold bath, and gentle exercise.

The subsequent prescription comes recommended, with the authority of Sir John Pringle, as a powerful antiaphrodisiac:

℞ Lign. Guaiac. un. 3. Lig. Junip. un. 2. Rad. Chinæ, un. 1. Argent. Viv. in linteo humido ligati, Antimon. Crud. in linteo ligat. ana, un. 1. post debitam cum aqua font. infusionem coquantur ad ℔6. Sub finem coctionis addendo Rad. Glycyr. un. 2. Colat. Capiat. un. 30—60. omnia quotidie per 30 ad 50 dies.

Yet, in addition to this also, it must be observed, that tonics are certainly required to obviate the predisponent cause, and that gentle exercise in the open air is a powerful tonic. Violent exertions would exhaust the vital energy, and increase debility: but nevertheless, it will be found expedient to push the exercise as far as possible without producing this effect, because in this case the quantity of animal food may be increased, and then muscular exertion will continue to be a powerful tonic. Besides, by experience, it is found, that when a due quantity of vital energy is expended in this way, nature is not solicitous to seek relief from any other quarter, but quietly sinks into refreshing slumbers:

Nocte fatigatum somnus, non cura puellæ,
Excipit; et pingui membra quiete levat.

The patient must likewise endeavour to procure some agreebale employment for his mind, in order to obviate the mental stimulus, at the same time most carefully avoiding such places, such society, and such books as have been accustomed to inflame his imagination, and to excite his passions.

If by these means he acquires some degree of fortitude and resolution, a cure may be expected, because by degrees

grees evil habits may be broken; whereas by indulgence every evil habit is confirmed.

It is the property of a stimulus, either to produce action, or to exhaust the irritability of the part to which it is applied. If action is produced, and any kind of drain from the system is established, nature provides a regular supply, and becomes impatient whenever that evacuation ceases. This may be observed in the hæmorrhoidal and in the menstrual discharge, in periodical hæmorrhages, such as epistaxis, and in those persons who at stated seasons have been accustomed to be blooded. It is from this principle alone that plethora is increased by vĕnæsection.

Again, when nature has been taught to act on the slightest irritation, she becomes impatient under the common stimuli, and is thrown into convulsive or spasmodic action by those which would have otherwise been endured without commotion.

In the extreme debility of typhus, in hysteric affections, when severe, or when a person has long been secluded from the light, how irritable is the retina! how impatient under the stimulus of light! After long confinement, with silence and solitude, how readily are such patients convulsed by the stimulus of sounds! the same may be said of every other stimulus, even of blood in the arteries of one who is sxhausted and dying of an hæmorrhage.

If, from fortitude and resolution, the stimulus is endured, the irritability of the part to which it was applied will be exhausted, and, according to circumstances, it may be hours, weeks, or months, before the irritation is renewed. This may be observed with respect to hunger, to parturient pain, and particularly to the appetite before us, in those animals, with which we are best acquainted, of the domestic tribe.

Genus XCVII. Nymphomania.

This disease, which is the same with the preceding, is common in warm climates. The effects, as described by Juvenal

Juvenal in his sixth satire, are most humiliating to human nature. It acknowledges the same causes with satyriasis; but as females, more especially in warm climates, have a more irritable fibre, they are apt to suffer more severely than the males.

As a natural disease, it requires tonics and astringents; as moral, it calls for moral arguments: in both cases the prudential cautions recommended in satyriasis are expedient. But, from what I have had an opportunity to observe in Spain, I must further add, that young persons of delicate sentiments and tender consciences must be careful not to mistake a mere natural desire for moral turpitude, lest distress of mind should increase the predisponent cause of this morbid affection, which is debility, attended by irritability, and lest, by rivetting this too vivid idea in the mind, it should there prove a constant stimulus to excite desire, and aggravate that distress which they are impatient to relieve.

Genus XCVIII. Nostalgia.

Impatience when absent from one's Native Home, and Vehement Desire to return, attended by Melancholy, loss of Appetite, and want of Sleep.

This disease is equally familiar to the Swiss and to the peasants of the Asturias, who have quitted their native mountains, and in many cases proved fatal. It commonly deranges the digestive functions, and commits the greatest ravages in the alimentary canal, inducing flatulence, costiveness, atrophy, and death.

Dr. Hamilton, of Ipswich, records a curious case, in a Welsh recruit, A. D. 1781. This young man was of a gloomy countenance, and complained of weakness. His pulse was frequent and small; he had little appetite; his sleep was disturbed by starting, he was atrophic, and his strength was so reduced, that he could not leave his bed; yet he had no pain, no thirst, no cough. Neither wine, cordial stimulants, nor other tonics had the least effect, for his pulse daily became quicker and smaller.

Evening exacerbations and morning sweats succeeded. His

His nails became incurvated, and the tunica adnata of his eyes pellucid, attended by debility and emaciation in the extreme.

In this situation his sagacious physician obtained from the commanding officer, and communicated to his patient, a promise of a furlough for six weeks.

On this promise his appetite and strength returned; in a few days he was able to get up, and in two months he left the hospital, being then perfectly restored to health.

Genus XCIX. Anorexia.

Appetite impaired.

Dr. Cullen very properly considers *anorexia* as symptomatic of other diseases, but chiefly of dyspepsia; yet, for the benefit of students, he takes it as a genus, and reduces nine out of the thirteen species, enumerated by Sauvage, to two. The other four he considers as uncertain. His two species are,

1. Anorexia *humoralis;* and 2. Anorexia *atonica;* but, in my apprehension, he might have reduced them both to the *atonica*, because *anorexia pituitosa*, *anorexia biliosa*, and the *anorexia a saburra*, which are the three species of Sauvage included in the anorexia *humoralis* of Cullen, all arise from *atony*, either of the mucous glands, or of those which secrete the gastric juice.

1. When the mucous glands are relaxed, the stomach will be lined with viscid mucus; digestion will be impeded, and bile may regurgitate; in consequence of all which, the appetite for food, as well observed by Boerhaave in his aphorisms 70, 71, will be impaired. The proper remedies in these cases are emetics, rhubarb, steel, and aromatics, temperance, exercise, and air; but particularly *vital air*.

The anorexia *melancholica* of Sauvage, arranged by Cullen under *his atonica*, is stated to arise from fear and grief, which relax the mucous glands, load the first passages with slime, and thereby separate between the living fibre and the gastric juice.

2. When the glands which secrete the gastric juice, become

become atonic, this solvent will be deficient either in quantity or quality ; and in either case the appetite for food will be impaired.

This affection of the glands may be a symptom of palsy, and of comatose affections, or it may be induced by violent and exhausting stimuli topically applied, such as opium and ardent spirits in excess. This constitutes the *onorexia paralytica* of Sauvage.

It is however probable that the same causes which derange one set of glands in the stomach disturb at the same time the action of the other, more especially in cases of *anorexia paralytica ;* and for this reason it was that Sauvage recommends emetics and cathartics. Yet, if the emetics should not bring to light a quantity of viscid mucus, we may be certain that those glands only, which secrete the gastric juice, are injured. In this case not emetics and cathartics, but cordial stimulants and tonics, such as opium and ether, with bitters and aromatics, will be expedient.

This observation more particularly applies to the *anorexia arthritica* and to the *anorexia exhaustorum* of Sauvage, both very properly arranged by Cullen under his anorexia *atonica.*

In cases of fever, loss of appetite arises from two causes, 1. From viscid mucus lining the stomach, and separating, as I have stated, between the living fibre and the gastric juice. 2. From the fever itself, if of the ardent or inflammatory kind ; because nature then requires and loudly calls for, not such substances as abound with hydrogen, but cooling diluents, with acids and acescent fruits, as I have fully explained in my observations on respiration and vital air, when treating of continued fever, which, that I may avoid repetition, I must request the student to consult. Indeed the young practitioner should always have it deeply impressed upon his mind, that when the system is supplied by the lungs with *oxygen*, HEAT, by decomposition of the *vital air*, is generated in proportion to the quantity of *oxygen* absorbed in respiration by the blood : but that when the system is saturated with *oxygen* by the stomach, and receives it, not from an elastic fluid

fluid abounding with caloric, but from either solids or from non-elastic fluids, no such supply of VITAL HEAT ensues, and that the quantity of heat must therefore sensibly diminish.

It is probable that nature, in her efforts to relieve herself, may, in ardent fever and in extremity of heat, supply a less than usual quantity of gastric juice, and then in both these cases loss of appetite will follow, and will be properly arranged under anorexia *atonica*.

The *anorexia neophytorum* of Sauvage arises, like his *pituitosa*, from mucus accumulated in the alimentary canal, and may be cured by rhubarb and magnesia, to which half a grain of calomel may be added to advantage.

That the young practitioner may not mistake inability to suck in new-born infants for *anorexia*, I may here transiently observe, that when the tongue is tied, they seize the teat and try to suck, but instantly manifest disappointment and distress.

Genus C. ANAPHRODISIA.

Impotence.

Dr. CULLEN enumerates two species. 1. *Anaphrodisia paralytica*. 2. *Anaphrodisia gonorrhoica*; the former a paralytic affection of the muscles, and the latter the consequence of extreme debility.

When impotence appears, as the dregs of satyriasis, there can be little expectation of relief from medicine; but when it is merely the consequence of general debility, a generous diet, with tonics and astringents, assisted in their operation by exercise and air, particularly by *super-oxygenated air*, will speedily effect a cure.

I had, whilst I was in Spain, a patient, a most respectable and virtuous young man, who, from sickness and debility, had anaphrodisia gonorrhoica, and for this complaint had been, most preposterously, reduced to a vegetable diet. When he consulted me his pulse was very frequent, but so small as scarcely to be felt; and such was the irritability of his system, that he could not suffer the irritation, either of a razor on his beard, or of a comb

to

to his head, without spasmodic affection producing *gonorrhœa*.

I ordered him animal food, with plenty of wine and Peruvian bark, and made him undertake a journey, in consequence of which he was speedily restored to health, with perfect ability to perform his functions, and has since had a numerous family.

Class IV. LOCALES.

Order III. Dyscinesiæ.

Motion impeded or depraved, from an imperfection of the Organ.

In this order we have six genera.

1. Aphonia. 2 Mutitas. 3. Paraphonia. 4. Psellismus. 5. Strabismus. 6. Contractura.

Genus CI. Aphonia.

Inability to utter Sounds, without either Syncope or Coma.

Sauvage has nine species of aphonia, which Dr. Cullen has reduced to three:

I. Aphonia *gutturalis*, arising from tumefaction of the fauces, and particularly of the glottis, which is the *aphonia catarrhalis* of Sauvage. This may be produced by either angina or catarrh, and must be treated accordingly.

II. Aphonia *trachealis*, from compression of the trachea, by aneurism, of the carotids, or the bronchia, by either aneurisms of the aorta and of the heart, or by tumours in the lungs, such as abscess, vomica, steatoma, scirrhus.

III. Aphonia *atonica*, arising, 1. From division, whether by erosion or by mechanical violence of the recurrent nerves, as happens sometimes in the extirpation of glands in the neck, whether strumous, cancerous, or steatomatous. 2. From Paralysis of the recurrent nerves induced by spasm, and occasioned by affections of the stomach.

The nervous communication between this organ of digestion

digestion and the larynx is maintained by the *par vagum*, which, descending along the œsophagus, as it enters the thorax, sends back the recurrent nerves to be distributed wholly in the larynx, and is itself lost in the pharynx, lungs, and heart, but chiefly in the stomach.

Dr. Cullen very properly observes, that the *aphonia* MELANCHOLICA, aphonia *paralytica*, aphonia *temulentorum*, aphonia *hysterica*, and aphonia *ab antipathia*, are symptomatic.

The treatment therefore is the same in each as that of the primary disease.

Genus CII. MUTITAS.

Inability to utter articulate Sounds.

SECTION I.

Of the Species of Dumbness.

1. *Mutitas paralytica* is a *paralytic* affection, induced either by mechanical injury, or by pressure. It frequently precedes or follows *apoplexies*, whether serous, sanguine, or spasmodic. The treatment in such cases therefore must be sought for under *apoplexy*. The *mutitas traumatica* of Sauvage, denominated mutitas atonica by Cullen, is *aphonia*, and not *mutitas*.

2. *Mutitas spasmodica.* Hoffman mentions several cases of *mutitas*, which he calls *aphonia*, arising from the stimulus of worms in the first passages. He attributes the effect produced to spasmodic contraction of nervous parts in the lower belly, by which the blood is impelled with force into the tongue, and there stagnating, presses upon the nerves. This pathology may certainly be just, or the determination of blood to the superior region may be caused by spasmodic constriction of the diaphragm in the manner I have explained in *mania hysterica*. But I am rather inclined to account for this effect by referring at once to sympathy of parts. This consent between the stomach and the tongue may be maintained either by means of the first cervical, or by means of the intercostal which sends branches to the stomach, and the ninth pair which distributes branches to the tongue.

Such

Such cases may be readily distinguished by the common symptoms of worms, and easily cured by anthelmintics.

3. *Mutitas narcotica.* Loss of speech may arise from the action of narcotics of opium, of atropabelladona, of hyoscyamus, &c.; or it may be induced by ardent spirits.

Highway robbers, in the vicinity of Montpellier, according to Sauvage, are said to have compelled the persons whom they plundered to drink infusion of thorn apple *(datura strammonium)*, which rendered them speechless for two days.

4. *Mutitas a siccitate.* Loss of speech may be caused by dryness, foulness, and inflexibility of tongue, as sometimes occurs in malignant fevers.

5. *Mutitas surdorum.* Want of speech in those who are born deaf.

These persons may easily be taught to understand what is said by watching the motion of the lips of any one who speaks to them, and without much difficulty may learn to speak. The first who taught this art was a Spanish Monk. Ammanus of Amsterdam, and Wallis in London, followed in the same line. My old friend Henry Baker made some improvements, and Pereira was eminent at Paris; but the two gentlemen, who may be said to have perfected this art, were the Abbé l'Epeé in France, and Mr. Braidwood in North Britain, the latter now established at Hackney.

The Abbé, I understand, published an admirable treatise on this subject, and it is to be hoped that Mr. Braidwood will not suffer his own observations and improvements to be lost.

SECTION II.

Cases of Mutitas.

Case I.

A young lady, aged 18, of a relaxed habit, florid countenance, and plethoric, having exposed herself to cold whilst her courses were upon her, these were suddenly obstructed, she was seized with violent head ach, and all the blood vessels in her face became distended. She passed a restless night, and in the morning she was speechless. For four days

days she scarcely eat or drank, and had little rest at night. A physician ordered a clyster to relieve her costiveness, and took three ounces of blood from the foot. As however she continued speechless, Hoffman was consulted.

Finding the pulse frequent and full, he took away seven ounces of blood, and administered essence of castor, with aqua ammoniæ, and his mineral anodyne. Of this mixture he gave thirty drops every fifteen minutes in some infusion of lilies of the valley. A strong perspiration soon broke out all over her body, the swelling of face subsided, her sleep was refreshing; and, after continuing the medicine through the day, her voice was perfectly restored.

Case II.

A man, aged 80, of a spare habit, accustomed to lose blood three times a year, but always healthy, was persuaded, on account of the long continuance of excessive heat, to omit his usual evacuation, till he was suddenly deprived of speech, and of all sensation.

Hoffman observing that his eyes were much inflamed, and that his arteries beat strong, ordered him to be bled immediately, to have an emollient clyster, to take nitre in small doses at short intervals, and to drink infusion of balm, carduus, betony, with flowers of sage and rosemary.

These medicines procured relief, and, after some continuance, perfected a cure.

Case III.

A healthy boy, aged 11, lost suddenly the use of speech, and was affected mith spasmodic constriction in the muscles of his neck and back. For these complaints he took anthelmintics, antispasmodics, and tonics, which brought away fifteen worms, but for five weeks left him speechless.

Hoffman being consulted, ordered

℞ Asæ fœtid. Myrrh. elect. Extract. Tanaceti, Rhei, Aloes, Calomel. aa. ʒj. Extract. Croci, gr. vj. Essent. Castorei, q. s. ut f. Mass. Pilul. cujus ex scrupulo, f. Pill. xx. Quarum septem bis in septimana sumendie sunt interjectis sequentibus.

℞ Sal. Cathart. Amar. gr. xv. Nitri purific. Corallinæ, aa. gr. vj. M. f. Pulv. mane summend:

That is,

Asafœtida, myrrh, extract of tansy, rhubarb, aloes, calomel, of each one dram; extract of saffron six grains; essence of castor sufficient to make pills; of which take seven grains, twice a week, interposing the following powders:

Take bitter purging salt fifteen grains, nitre and coralline, of each six grains, for one powder.

These medicines, with a strengthening plaster to his neck, soon restored the use of speech.

Case IV.

Sauvage mentions a boy, who having passed, by the use of anthelmintics, thiry worms in twenty days, recovered his speech, which he had lost.

Genus

Genus CIII. PARAPHONIA.

Depravation of Voice.

Dr. CULLEN has six species, which are well distinguished:

1. Paraphonia *puberum*, in which the voice, about the time of puberty, becomes harsh and dissonant. It is curious to observe the provision made by nature to announce this internal change in the system by external characters, for no sooner does virility take place, than a beard begins to grow, and the tone of the voice sinks four or five notes lower than it was before.

2. Paraphonia *rauca*, in which, from dryness or flaccid tumour of the fauces, the voice becomes deep, hoarse, and dissonant.

In both these cases the vocal chords, extended from the arytænoide to the thyroide and cricoide cartillages, may be perhaps unequally relaxed, and the muscles, whose office it is to stretch them, may have lost their tone. This opinion seems to be rendered probable from hoarseness following excessive exertions of the voice, and being cured by tonics.

When hoarseness is a symptom of catarrh, it must be relieved by attention to the primary disease

3. Paraphonia *resonans*, in which the nostrils being closed, the voice is harsh and sibilant.

This varies according as the nostrils are closed by the velum pendulum palati; by mucus in coryza, and catarrh, or by a polypus, as happens sometimes in venereal cases.

4. Paraphonia *palatina*, in which the uvula is either wanting or divided, either naturally, or by erosion of venereal virus. The voice is hoarse, and in speaking the countenance is much distorted. It may be relieved by a silver palate.

5. Paraphonia *clangens*, in which the voice is harsh, acute, and clangent, as in hectic and consumptive patients, when ulcerous inflammation extends to the larynx, producing tension and immobility of the vocal chords.

6. Paraphonia *comatosa*, *snoring*, produced by inspiring

ing with the mouth wide open. The larynx descends, the tongue forms a deep channel longitudinally, its basis is depressed, and the velum pendulum, relaxed, bends downward. When the person snores with his nostrils closed, the tongue expands, and makes a wider channel. When the mouth is shut, he cannot snore ; nor can he snore with ease when the tongue is forcibly depressed and the nostrils are closed.

Genus CIV. Psellismus.

Vitious Articulation respecting Sounds.

Dr. Cullen enumerates seven species, Sauvage eleven. I shall however pay little attention to the specific names, and content myself with describing such defects as are most common, with their cure.

1. *Hesitation* is a trick, a contracted habit of attempting to speak without clear and distinct ideas.

The best remedy for this defect is to study the mathematics, to watch against distraction of thought, and never to speak upon any subject without having first thoroughly digested the arguments and facts to be adduced, with a connected method of arrangement. When the blacksmith is at a loss where to direct his hammer he smites upon the anvil.

2. *Stuttering*, or *Stammering*.

This likewise is a contracted habit.

The tongue has for its motion four pair of muscles, beside those which belong to the os huoides, and innumerable muscular fibres, by which it is contracted, expanded, elevated, or depressed, protruded forwards, or retracted in a multiplicity of ways. These, among other offices, assist in forming letters, syllables, and words.

For the same purpose it is amply furnished with nerves, having two considerable branches from the fifth pair, and the same number from the ninth, besides some filaments from the par vagum. These, with their numerous papillæ, when the epidermis has been removed, are discovered on the upper surface of the tongue, where the office assigned them is to direct its motions.

At this ample supply of muscles and of nerves we cannot be surprised, when we consider that, independently of directing the food in the acts of mastication and deglutition, it is the principal modeller of sounds in speech. For although some of the letters only have been called linguals, whilst others are denominated dentals, gutturals, and pallatines, yet in every one of these the tongue is the prime agent, and must, by determinate motions, assist to form them all.

Yet, when once the habit is acquired, no sooner is a determinate motion of the tongue required, than it instantly obeys, and even seems to prevent volition, as the fingers of the musician, without consciousness, find the strings. All this now depends on habit; but let these associated motions be thrown into confusion by some nervous affection, producing discordant action, and the habit, instantly disturbed, is no longer useful; the chain is broken, and calls for strong mental efforts to renew it. In the musician, who has learnt his art by rules, it may require a little recollection only to join the broken threads; or, by taking up the piece from the beginning, if his confidence does not fail so as to produce nervous affection and fresh confusion in his associations, he will get rid of his perplexity. But the stammerer, not having learnt to speak by rule, cannot with the same facility extricate himself. With him all depends on habit; and as it is probable that shame, disappointment, and distress will produce the same effect more readily a second time, it will be in vain for him to recommence a chain of thought and expression, which, without tranquillity of mind, he will never be able to pursue.

For this reason Mr. Henry Baker, who taught stammerers to speak plainly, always began with teaching them the alphabet by rule; then led them on to syllables, and from syllables to sentences. When his pupils, whilst reading or speaking, began to stammer, he took notice by what letter they were thrown into confusion, and stopped them instantly; he gave them time to recollect themselves; and then made them practise single words, or short sentences, abounding with that letter. After this he

he made them repeat the sentence often which had created their perplexity, but slowly at first, and with much deliberation, as musicians practise, when they find their fingers at a loss to execute new and difficult combinations in a piece of music.

By this method, employing three hours in a week, he cured the stammerer in the space of a few months; and as, from its simplicity, he was apprehensive that other teachers might adopt his plan, he exacted an oath from all his pupils that they never would reveal his secret.

In most cases of stammering the nerves are affected, and the system is too irritable. It is then truly a disease; belongs to the neuroses; and, like all other spasmodic affections, calls for medical assistance.

To effect a cure in such cases requires tonics, strict temperance, with a generous diet, cool air, exercise, bitters, bark, steel, and the cold bath.

3. *Literal omissions and mistakes.*

Some people have acquired a habit of omitting particular letters wherever they occur. The most common defect is to omit the R. Many drop both R and L; yet, by a little attention, they might recover both. For the R they need only raise their tongue to the roof of their mouth, and, breathing strong, make its point vibrate; and by practising frequently such tremulous motion of the tongue they will acquire the habit of pronouncing this letter with facility. In the same method, by inquiring how other persons move the tongue, they will learn to form every letter.

It is for want of this knowledge and attention that many people substitute one letter for another, B for P, D for T, and F for V, or frequently L for R, and sometimes even T for C, and S for G, or the reverse of these. From the same neglect it is that Frenchmen universally, when they speak English, put T for Th.

Genus CV. Strabismus.

Squinting.

This habit is commonly acquired in the cradle, by being always in the same position respecting the place from

from whence light proceeds. It is however frequently brought on by imitation, or by accident, such as having a mark on one side of the nose to attract the eye.

It is sometimes the effect of weakness and of spasm, in which case it calls for tonics; or it may be a *paralytic* affection, and require the same treatment with that disease.

When it proceeds from extreme near-sightedness, or from the eyes having different focal distances for perfect vision, it is incurable. But if it is caused by any removable blemish of one eye, it belongs to some primary disease, and must therefore be considered merely as symptomatic.

The only mechanical contrivance in common use, and that certainly a valuable discovery, is, to have a mask with two funnels or hollow cones, each with a small apex to coincide with the axis of the orbit, one of which apertures may be occasionally closed, in order to compel the most distorted eye to act. That however the eyes may be taught to assist each other in judging of magnitudes and distances, it will be sometimes necessary to use a bandage, without these funnels, having only small apertures directly in the visual line; and in this case the person must be attentive to use both eyes at once.

Genus CVI. CONTRACTURA.

A permanent and rigid Contraction of a Joint.

OF this we have two species; for the contraction may arise either from an affection of the muscles, or from diseases of the joints.

1. Contraction of the muscles with rigidity, arising from,

A. *Inflammation*, as in arthritis and rheumatic affections, which may terminate in ossification.

B. *Spasmodic affections*, particularly in *raphania*. Sauvage considers one species of *dry gangrene*, which he calls *necrosis ustilaginea*, as originally spasmodic, producing first rigid contractions, then atrophy and gangrene. This by his description, although occasioned by feeding

ing on diseased rye, from which it derives its appellation, seems to be the same disease with the *gangrene of old people*, so well described by Pott, and cured by the exhibition of opium in large doses.

C. *Palsy* of the antagonist muscles, occasioned by rheumatism, by colica pictonum, and particularly, in Bohemia, by the use of austere wines extracted from unripe grapes.

D. *Scurvy*, in the second stage of which, patients commonly lose the use of their limbs, from permanent contraction of the flexor tendons.

2. Contraction from stiffness of the joints, arising from *anchylosis*. This may be produced in consequence of deficient synovia; or the capsular ligament may be ossified; or the bones, after fracture, may be united by the process of adhesive inflammation; or finally, exostoses may be formed in consequence of *rachitis*, of *scrophula*, or of the *venereal poison*.

Class IV. LOCALES.

Order IV. Apocenoses.

A superabundant flux of blood or humours, without pyrexia, or increased impetus of the fluids.

In this order we have six genera:

1. Profusio. 2. Ephidrosis. 3. Epiphora. 4. Ptyalismus. 5. Enuresis. 6. Gonorrhœa.

Genus CVII. Profusio.

Loss of Blood.

This must be either passive hæmorrhage, of which I have already treated under the fourth order of the first class; or, as the effect of mechanical injuries, it requires the assistance of a surgeon.

Genus CVIII. Ephidrosis.

A violent and morbid Sweating.

Sauvage has 20 species; but among these one alone is idiopathic. This, of which he met with three cases, is independent

independent of fever, and unconnected with any other visible disease. He cured it by cathartics, acidulated drinks, and milk.

The other species, although merely symptomatic, I shall subjoin, with occasional remarks.

1. *Ephidrosis febrilis.* 2. *Ephidrosis febricosa.* In the first of these the sweating may be either critical and salutary, or it may be injurious; in which last case the coverings must be diminished, or the patient may be taken out of bed. In the second of these species, which is the symptom of intermittent or remittent fevers of a peculiar type, the fever is so far from being relieved by the sweating process, that it is aggravated, and that in proportion to the evacuation. It is cured by cathartics followed by the bark.

3. *Ephidrosis hectica.* 4. *Ephidrosis exanthematum.* 5. *Ephidrosis syncoptica.* 6. *Ephidrosis scorbuta.*

7. *Ephidrosis a saburra*, occasioned by a load of indigested sordes in the alimentary canal. I remember a remarkable case of this in Dr. Frampton, rector of Bremhill in Wilts, who for many years had every night such profuse perspiration, that his bedclothes were as wet as if they had been dipped in water. To this circumstance he attributed his freedom from gout, which he conceived to be his legitimate inheritance. Sauvage records the case of one who, from verminose saburra, passed no less than forty pounds in one day by sweat.

8. *Ephidrosis lactea.* 9. *Ephidrosis mellea*, of the colour and consistence of honey. 10. *Ephidrosis vinosa*, of the colour of red wine. 11. *Ephidrosis viridis.* 12. *Ephidrosis nigra.* 13. *Ephidrosis lutea.* Both these were produced by fulminating gold. 14. *Ephidrosis urinosa.* 15. *Ephidrosis cruenta*, in scurvy, and from the arm pits in patients of a relaxed habit. 16. *Ephidrosis cærulea*, in the paroxysm of an epilepsy. 17. *Ephidrosis acida.* 18. *Ephidrosis arenosa.* 19. *Ephidrosis lateralis.* This was observed in a woman, who through the whole course of her life, excepting the times of pregnancy, never had any sweating on the right side, but always, whether spontaneously or by medicine, on the left.

For

For these remarkable cases Sauvage quotes Bartholini, Haller, and other practitioners of established credit.

Genus CIX. Epiphora.

Lachrymation.

The flow of tears may be caused either by superabundant secretion, or by deficient transmission to the fauces. The former may be occasioned either by mental passions, by the sense of pain, or by any stimulating substance either in the eye itself, or applied to the pituitary membrane, and exciting action in the lachrymal gland merely by consent.

Deficient transmission of the tears may be caused by want of action, obstruction or compression of the capillary tubes, which convey them from the angle of the eye to the lachrymal sac, by similar affection of the sac itself, or by obstruction of the nasal duct.

Hence the several species enumerated by Sauvage.

1. *Epiphora a pathemate*, as in acute diseases, and in passions of the mind.

2. *Epiphora opthalmica.* 3. *Epiphora calida.* These accompany different species of *ophthalmia*, in which there is redness, heat, pain, and itching of the eyes. The cure is performed by curing the ophthalmia.

4. *Epiphora frigida*, follows inveterate ophthalmias, but is not attended by itching, heat, or pain. It may be occasioned by hard study, and seems to arise from loss of tone in the capillary tubes.

5. *Epiphora arthritica*, a symptom of retrocedent gout.

6. *Epiphora ab ectropio*, caused by inversion of the inferior eyelid, whether by wounds or combustion, by relaxation, or by internal excrescences, which destroys the channel designed by nature to convey the tears from the secreting gland to the absorbing tubes.

7. *Epiphora ex rhyade*, occasioned by erosion of the caruncula lachrymalis, producing pain, irritation, and spasmodic constriction, of the ducts which convey the tears into the lachrymal sac.

8. *Epiphora ex variolis*, produced by a pustule of the small

small pox, which either simply obstructs the lachrymal canal, or producing inflammation of the membrane, causes the opposite sides of the sac to adhere by the first intention.

9. *Epiphora ex ægylope.* 10. *Epiphora ab anchylope.* These, as well as the preceding, when confirmed, produce *fistula lachrymalis.*

To understand the nature of these it will be needful briefly to explain the structure and diseases of the lachrymal canal. This I shall take the liberty of doing from a manuscript copy of most incomparable lectures on anatomy and surgery delivered by Mr. Cline, to which I shall subjoin such observations as the subject may require, with the mode of treatment recommended by Mr. Wathen.

When the tears, secreted by the lachrymal gland, have performed their office in washing the cornea, to keep it constantly both clean and moist, they are conveyed by the eyelids to the inner canthus, where two capillary tubes absorb them. These tubes proceed horizontally nearly a quarter of an inch, then open by two separate orifices into the lachrymal sac, which descending half an inch, enters a bony circle formed by the orbital and nasal processes of the superior maxilla, where the duct is much contracted; but having traversed this narrow passage, it expands and enters the nose by a large aperture, under the upper lamina of the *os spongiosum.* Here it serves to moisten the inner membrane of the nostrils.

This lachrymal duct may be obstructed in a variety of ways.

A. By *viscid mucus*, and then we have *anchilops lachyrmoso-mucosus* of Sauvage. To remove this we may first empty the sac by pressure, then drop some detergent fluid into the eye, which will pass into the sac, and repeat this operation; or a surgeon may fill the sac with quicksilver in the manner recommended by Mr. Blizard, and practised by my valuable friend Mr. Wathen.

B. By *pus*, which constitutes the *anchilops purulentus* of Sauvage. This begins with *inflammation* of the sac, which is rendered evident by redness, heat, shooting pain,

pain, and pulsation in the tumour, and terminates in suppuration. During the inflammatory stage the antiphlogistic regimen must be pursued: but when pus is formed it may be washed away, as in the preceding case.

C. By *adhesive inflammation.* *D.* By *granulations.*

E. By *caries and exostoses*, as in scrophulous and venereal cases, which obliterate the bony passage.

F. By *compression* of polypus, hordeola, and encysted tumours, which the surgeon must remove.

The consequence of obstructions in the lachrymal duct, however occasioned, will be *epiphora*, that is a flux of tears trickling down his cheeks, where they cause irritation and inflammation with excoriation of the integuments; and the stimulus of distention in the sac ultimately produces ulceration and an abscess. Nature then having relieved herself, proceeds to heal the wound, and here perhaps the disorder terminates. Should however the patient frequently relapse, she may yet at last effectuate her purpose, and then quietly repose.

My friend Mr. Wathen, in the year 1791, saw a lady aged 61, who had a *fistula lachrymalis* for many years, which repeatedly broke and was healed by superficial dressings. In this case, notwithstanding the bones were known to be carious, and no means were ever tried either to open the natural passage or to form an artificial one, the obstructed duct became pervious, the tears resumed their proper course, and the ulcer healed.

When it becomes needful to open the lachrymal duct for the radical cure of *fistula;* the proper time for this operation will be, when the sac is distended and inflamed, but before ulceration, or even the thickening process has begun; after which a suitable probe must be introduced to remove the cause of this obstruction. A golden tube may then be introduced, in the manner recommended by Wathen, which, as practised by him, or by his able partner and grandson Mr. Phipps, occasions little pain, is executed in a few minutes, and in four days is perfectly healed without leaving any vestige of the wound.

Genus CX. Ptyalismus.

Salivation.

Sauvage has 20 species, which it may be proper to enumerate.

1. *Ptyalismus nauseosus*, occasioned by consent of parts between the fauces and the stomach, when stimulated by indigested sordes. It is cured by emetics.

2. *P. a pyrosi*, differs from the former only in having acid taste in the mouth and *heart burn*.

3. *P. a laxitate*, as in *paralytic* patients, and in drivellers. Relieved by tonics in every shape.

4. *P. variolosus*, in confluent *small pox* in adults, continuing commonly eleven days, and then succeeded by swelling of the hands. It is a salutary evacuation.

5. *P. scorbuticus*, attending *scurvy*, to which it must be referred.

6. *P. hypochondryacus*, a common symptom in melancholic patients, who acquire the habit of spitting, which increases indigestion, flatulence, costiveness, and loss of strength.

7. *P. arthriticus*, caused by atonic gout, and sometimes an attendant on gouty tooth ach.

8. *P. phthisicus*. This may be regarded as one of the first symptoms of approaching *phthisis*. It prevails chiefly in the mornings, and the saliva has a saltish taste.

9. *P. viridis*, which was observed by Dr. Huxham in a case of jaundice, and after continuing some time, is said to have cured the patient of his jaundice.

10. *P. apthosus*, attended a case of synocha with angina.

11. *P. gravidarum*, attending the first months of pregnancy.

12. *P. catarrhalis*, a symptom of catarrh.

13. *P. a carie*, when the bones of either jaw are carious.

14. *P. febrilis* attended an intermittent at Leipsic.

15 *P. syphiliticus*, occasioned by venereal ulcers in the fauces.

16. *P. mercurialis*, to be relieved by liver of sulphur, as

as first practised by the ingenious Dr. Garnet of Harrowgate, and described in his letter to Dr. Beddoes.

17. *P. a calculo.* Several instances have been recorded of salivation arising from calculi in the duct of the sublingual gland, and ceasing when these cretaceous concretions have been extracted.

18. *P. purulentus.* In this singular disorder the patient for more than three years discharged purulent sanies from the maxillary sinus, which were carious, yet in other respects he enjoyed perfect health.

19. *P. urinosus*, recorded by some writers of authority.

20. *P. laponicus.* It is a symptom of Lapland colic which when most severe is terminated by spontaneous salivation.

Genus CXI. Enuresis.

Involuntary Discharge of Urine without Pain.

Sauvage has nine species.

1. *Enuresis infantum.* Children of a weak and irritable fibre are most subject to involuntary discharge of urine, and particularly whilst they sleep. Such children from debility sleep sound, yet from irritation or distention in their bladder, are apt to dream that they are in a convenient place for this evacuation. The proper remedies are, 1. Tonics and astringents. 2. To drink little after dinner and nothing in the evening. 3. To make them empty the bladder before they go to bed. 4. To threaten and even punish them, when they transgress, for although the discharge is involuntary, yet strong impressions made upon the mind when they are awake, will retain some influence on their actions when they are asleep.

2. *Enuresis paralyticorum* arises from relaxation of the sphincters, caused by compression of the nerves. It is relieved by curing the primary disease.

3. *Enuresis herniosorum*, occasioned only when, by the action of the hernia, the sphincters are prevented from contracting.

4. *Enuresis*

4. *Enuresis puerperarum*, arising from ulceration of the bladder in hard labour. This effect is produced by compression of the neck of the bladder against the pubis by the head of the child, which brings on mortification of the part, and separation by the ulcerative process. This also has been frequently produced by unskilful use of the forceps, when the operator has not only taken the pubis for his fulcrum, but has injudiciously continued his pressure too long upon one spot.

5. *Enuresis calculosa*, is caused either by a calculus in the neck of the bladder, by sounding, or by dividing the spinctre when cutting for the stone.

6. *Enuresis fistula*. This sometimes arises from virulent gonorrhœa, when venereal ulcers in the urethra admit urine into the cellular substance, where it produces abscess and fistula. If this communicates with the bladder, the discharge of urine is incessant. In this case the opening by the knife must be extensive.

7. *Enuresis gravidarum*. This disease attends not only pregnant women in the last months of pregnancy, but those also who have borne many children. In the first case a proper suspensary bandage will give relief; in the latter tonics external and internal, general and topical, are called for.

8. *Enuresis catamenialis*. This case is curious; and shews that, in obstructed catamenia, the hæmorrhagic effort, renewed monthly, although insufficient to produce the desired effect, excited action in the bladder by consent of parts. The young lady in question had been troubled with enuresis to the age of puberty; but when she became a woman, she remained for three years free from this complaint, till her courses were suppressed by washing her feet in cold water. From this time every month for three nights she had enuresis, with total want of sleep, and eight days before this monthly period, and for as many after it, she had head ach, tumour in the hypochondria, and œdematous swelling of her feet, or even hæmoptysis. But if at any period the flux of urine failed, then all these symptoms were much aggravated, and continued till enuresis was restored.

9. *Enuresis*

9. *Enuresis asparganosi.* From suppression of milk after childbirth. It is cured by strong cathartics.

Genus CXII. Gonorrhœa.

A preternatural Flux from the Urethra in Men.

Sauvage enumerates seven species, which Cullen has reduced very properly to four.

1. Gonorrhœa *dormientium*, in which the seminal fluid is emitted during sleep, with erection and libidinous dreams.

To understand the nature of this affection, let the student consult what has been delivered on sleep, vigilance, dreaming, and delirium. He will then be able to trace the effect produced, to mental and material stimuli, to spices and spirits, or to wanton imaginations cherished in the day.

For the remedy of this disease, I must refer him to what I have said on *satyriasis*.

2. Gonorrhœa *laxorem*, in which the seminal fluid is emitted during vigilance, with libidinous desire, but without erection.

3. Gonorrhœa *pura*, in which the seminal fluid is emitted without erection or libidinous desire, and when there has been no impure connection.

This debilitating discharge produces, among other distressing symptoms, loss of appetite, indigestion, flatulence, and costiveness; paleness, prostration of strength and atrophy; loss of sleep, head ach, and defective memory; blindness, epilepsy, and palsy, with a depression of spirits bordering on despair.

Patients may be reduced to this deplorable condition in consequence of exhausting diseases, when these have produced relaxation, debility, and irritability, in the extreme, as in the case of *anaphrodisia gonorrhoica* already mentioned; but it is commonly the punishment of vicious habits, whether of the social or of the *solitary* kind. The treatment must be the same as in *satyriasis*.

4. Gonorrhœa *impura*, in which, after improper connection, a purulent discharge attended by dysuria, proceeds

ceeds from the urethra. This afterwards is followed by increased secretion and the flux of mucus.

For the cure I must refer to *syphilis*.

Hoffman has recorded eleven very interesting *cases* of gonorrhœa, from which I shall select the following :

A young man, infirm from his infancy, and atrophic at the age of seven, recovering health and strength, at the age of fifteen, learnt from a vicious companion an evil practice, in which, when alone, he daily indulged himself for many years, without suspecting, till it was too late, that he had offered violence to Nature, and that she never pardons the offender.

The first notice he received of her displeasure was by such excruciating pain as rendered him unable to walk. His understanding, memory, and sight, were the next to suffer loss ; his pupils were wonderfully dilated, his eyes were distressed with pain, and their lids were daily closed with gluten ; so that for a length of time, although studious, he was compelled to lay aside his books, for he could neither write nor read. He became again atrophic to such a degree that he was a skeleton ; and although for two years he had the resolution to abstain from the practice which had made life a burthen, yet his reformation was followed immediately by nocturnal pollutions, and his sufferings continued without the least relief.

In this situation at the age of 25, he consulted Hoffman, by whose advice he pursued the following plan.

Every morning he drank asses' milk with Seltzer water, and the subsequent medicines as directed :

℞ Cornu Cervi, pp. Os Sepiæ vel Chel. Cancr. aa. ℥ss. Succini cum instillatione, Ol. Tart. per deliq. ppt. ʒij. Eleutheriæ Cort. ʒj. M. f. Pul. c. c. ʒj. ex aq. Cerasor. nigr. Cyatho.

℞ Rhei. ʒj. Mannæ, ℥j Nitri. Antimoniati gr. 15. Coque et Solve leni Calore in Aquæ Selteranæ, ℥vj. Colaturæ, adde Ol. de Cedro, gtt. iij. M. f. H, quavis quinta die sumend.

℞ Ligni Santali Rub. Citrini, Rad. Chinæ, Scorzoneræ, aa. ℥iv. Rad. Cichorei, ℥j. Cinnamom. ℥ss. Mastiches, ʒij. M. f. Species, Quarum, ℥ij. Ex tribus aquæ mensuris addito passularum minorum manipulo uno, per tres horæ quadrantes decoquendæ et cap. pro potu ordinario.

He was ordered to abstain from salted meats, spices, and highly seasoned dishes, and from warm liquids. He drank infusion of mint and balm in the morning, by way of tea, and, continuing for some time in the use of Hoffman's visceral balsamic elixir, he was within six weeks restored to perfect health.

Class

Class IV. LOCALES.

Order V. Epischeses.

Suppression of Excretions.

In this order we have five genera.

1. Obstipatio. 2. Ischuria. 3. Dysuria. 4. Dyspermatismus. 5. Amenorrhœa.

Genus CXIII. Obstipatio.

Costiveness.

Sauvage who, to increase the number of his genera, too often multiplies distinctions without a difference and considers symptoms as diseases, has omitted *obstipatio*, from a persuasion that we never meet with it as a primary affection: but in this he is mistaken, as will immediately appear.

Linnæus, Vogel, Sagar, and Cullen, differ with him in opinion, and the latter very properly not only considers *costiveness* as a primary disease, but divides it into species.

I. Obstipatio *rigidorum*.

In persons of a robust and sanguine temperament, who enjoy high health, and take much exercise, the lacteals and *absorbents* are extremely active. Hence it is that their alvine fæces are commonly dry, hard, compact, and that they are inclined to *costiveness*. Their pulse is full and firm, their heat is high.

It is this species of costiveness which prevails in synocha.

The proper remedy for them is to keep their bowels soluble, by cathartics of the refrigerant and emollient *classes* such as cassia, tamarinds, sulphur, and tartarised tartar, with prunes, manna, and, in urgent occasions, castor oil.

II. Obstipatio *obstructorum*, with symptoms of *spasmodic affection* in the bowels. Pulse weak, small, frequent, heat variable.

It appears by the experiments and observations of Wepfer and Van Swieten that,

1. If, even after death, acrid substances, or any kind of

of stimulus, is applied to the intestines, they contract spasmodically, not merely in the stimulated parts, but often in the adjoining parts, to a considerable extent, so as completely to obstruct the passage. Van Swieten, with the point of his dissecting knife, stimulated the stomach of a dog some minutes after the animal was dead, when it immediately and forcibly contracted to one sixth of its antecedent capacity.

2. In living animals, acrid substances, such as arsenic, exhibited internally, or corrosives externally, applied to the coats of the intestines, cause them to contract forcibly, permanently, and closely, as if they were tied with cords. And whilst they are contracted in some parts, they are violently inflated in others, which being much distended become paralytic, and lose their power of contracting.

Wepfer observed, that as long as the acrimonious substance continued in the bowels its morbid effects were permanent, and that as often as flatus was forcibly expelled it was reproduced immediately. When he had given half a scruple of corrosive sublimate to a dog, which operated with violence both up and down, on opening the abdomen the inflated stomach came out, and being pressed, discharged flatus by the mouth, but was soon again distended by fresh flatus.

He had occasion likewise to observe, that if, whilst any part remained constricted, a similar irritation is produced in some fresh place, this part contracts, and the preceding constriction is relieved.

3. This constriction, with the consequent inflatation and distention in other parts, is so permanent when strong stimulants, such as arsenic, or any virulent corrosive, has been applied to the intestines, that in such persons as have died of colic, and in animals on whom these experiments were tred, Wepfer found it difficult to propel either the flatus or the aliments contained between any two constricted parts.

The occasional causes of spasmodic constriction in the intestines may be, 1. *Inflammation*, for which I must refer to *enteritis* and *gastritis*. 2. *Irritation* of acrid substances, as

as in *colic*, either taken into the alimentary canal or generated there, such as bile or worms. 3. *Sympathetic affection* with other stimulated parts, as with the kidneys in *nephritis*.

The cure may be performed by such remedies as have been already recommended in those diseases.

III. Obstipatio *debilium*, in weakly and relaxed patients, with pulse slow and feeble; heat very low.

Bile is the natural cathartic. When this therefore is either defective or depraved, constipation of bowels will ensue. This we have observed in *jaundice;* and we have in the Philosophical Transactions for the year 1730, a curious case of a soldier wounded in the gall bladder, who died of constipation.

But though the bile should not be deficient, yet if we have viscid mucus interposed between it and the living fibre, we shall have costiveness produced, as in *hypochondriasis* and *melancholia*.

The nature of the *food* must likewise be considered; for if, instead of animal food, which stimulates the intestines, the patient should have only rice, wheaten bread or milk, his bowels will be costive. Sauvage remarks on *tenesmus a scybalis*, that the efforts to evacuate the fæces in patients who live on milk, sometimes resembles those of a parturient woman.

The proper remedy is to change the diet, and to give calomel at night, to be followed by either soluble tartar or infusion of sena in the morning. But for particulars let the student consult *jaundice*, *hypochondriasis*, and *melancholia*.

IV. *Obstipatio paralytica*.

Dr. Cullen has taken no notice of this species; but it appears to me well founded, and needful to complete our catalogue.

In the *paraplexia traumatica* of Sauvage, a disease not uncommon about Montpellier, and often met with in Valentia and other countries, in which mulberry leaves must be daily gathered as the food of silk worms, the miserable object, who, by his fall, has injured the spinal marrow in the lumbar vertebræ, loses instantly all sense

and power of motion in the lower extremities, his urine flows spontaneously, and he has constipation in his bowels.

This case admits no remedy.

In *tympanites*, we have *costiveness* arising from paralytic affection, with loss of tone in some part of the intestines; the cure of which is to be sought for in the use of aromatics and antispasmodics, combined with gentle tonics and astringents, as recommended in that disease.

Genus XCIV. Ischuria.

Suppression of Urine.

Sauvage in his inestimable nosology has, when treating of *ischuria*, left us one perfect example of methodical arrangement; and Dr. Cullen, treading exactly in his footsteps, has judiciously divided this Genus into four species, each including numerous varieties.

I. Ischuria *renalis*, preceded by disorders of the kidneys, and attended by distressing weight, or pain in the region of the kidneys, but without either swelling of the hypogastrium or sense of stimulus exciting to the discharge of urine from the bladder.

This species contains the subsequent varieties:

a. *Nephritica*, from inflammation of the kidneys.

The symptoms and the cure may be seen under *Nephritis*.

b. *Nephrolithica*, from calculi, has similar symptoms with the preceding variety, but not the pyrexia. It is preceded commonly by a discharge of gravel, of mucus, or of blood, and immediately by pale and stimulating urine in small quantities.

The treatment must be the same as in the preceding; and, to prevent relapse, the lithontriptics mentioned in my Vade Mecum, particularly the *aqua nephritica alcalina*, must be resorted to.

Sir John Pringle was accustomed to prescribe the following.

℞ Terebinth. Venet. v. o. ʒ. dr. 4. Decoct. comm pro Clyst. un. 4. Ol. Olivar. Syr. e Spin. Cervin. aa. un. 1. M. f. Enem.

℞ Sem. Lini. un. 1. Pulv. Glycyr. dr. 6. Aq. bul. q. s. infunde prope ignem, per horas 12. Cola ℔2. Cap. un. 3. sæpius.

℞ Rad.

℞ Rad. Pareiræ brav. un. 3. Aq. Font. ℔ 1½. Coque ad. 1 Colat. c. un. 2. ter in die.

c. *Nephroplethorica*, from plethora, without either pain or pyrexia, and not preceded by any symptoms of morbid affection in the kidneys. In the case recorded by Riverius it was occasioned by a long journey during the hottest days of summer, and was perfectly relieved in less than one hour after a copious bleeding.

d. *Lunatica*, returning periodically at the full of the moon and vanishing in five days, unless previously cured, as it never failed to be by venæsection. In the case referred to by Sauvage, the pelvis of the left kidney was found to be as large as the urinary bladder.

e. *Nephrospastica*, from spasmodic affections, as in hysterical patients and in young people of an irritable fibre, when cutting teeth, menstruating, or suffering by other morbid stimuli in the system.

For the treatment consult what has been said on spasmi and spasmodic disorders.

f. *Nephrelmintica*, from worms in the kidneys.

g. *Nephrothromboides*, from clotted blood, preceded by bloody urine, and occasioned by mechanical injury or by violent exertions. It is attended by paleness, small pulse scarcely to be felt, extreme debility, rigour, nausea, and slight fever, with cold sweats.

h. *Nephropyica*, to be known by the history of the case, and by a purulent discharge through the urinary passages. Dr Haen recommends *uva ursi*.

i. *Nephrophlegmatica*, in cold phlegmatic habits, discovered by the discharge of mucus, and cured by diuretics of the stimulant order, by emetics, by cathartics of the calefacient and astringent orders, assisted by horse exercise.

k. *Nephroplegica*, from *Palsy*.

l. *Suppleta*, from diarrhœa, or excessive perspiration, preventing determination to the kidneys. Many cases are recorded, by authors of the most respectable authority, of patients who for years had no evacuation either by urine or by stool, whilst their perspiration was enormously increased; and Platerus mentions a girl of thirteen years of age, who for many days had

a discharge of water from her ear, which supplied the place of urine.

II. Ischuria *ureterica* is in many cases scarcely to be distinguished from the former. Dr. Cullen has adopted six varieties from Sauvage, coinciding in occasional causes with as many of the preceding species. But the most common is the *calculosa*, caused by calculi in their passage through the ureters.

The symptoms are pain, nausea, vomiting, costiveness, coldness of the extremities, numbness of the thigh, retraction of the testicle, followed sometimes by convulsions or by syncope.

The proper treatment is by warm bathing, clysters, which carry a warm fomentation to the part, *demulcents* and opium in repeated doses, till the spasm is relieved. Electric shocks sent through the loins have seldom failed to expedite the passage of caculi into the bladder.

The following *demulcent* mucillage may be useful in this species of ischuria.

℞ Gum. Arab. Tragacanth. aa. ʒij. Aq. Font. ℔j. Syr. ex. Alth. ʒj. M. Cap Cochl. iij. Sæpius.

Take gum arabic and gum tragacanth, of each two drams; water, a pint; syrup of althæa, an ounce. The dose may be three spoonfuls often in the day.

If the patient is plethoric, he must lose blood; and if the heat is high he must take ten grains of nitre two or three times a day. If the heat is moderate, 20 or 30 drops of balsam of copaiva may be given twice a day.

III. Ischuria *vesicalis*, with swelling of the hypogastrium, pain at the neck of the bladder, and frequent vesical tenesmus.

This species contains the subsequent varieties:

a. *Cystitica*, from inflammation of the bladder.
See *Cystitis*.

b. *Cystolithica*, from stone in the bladder. The symptoms are wandering pain and titillation about the pubis and the perinæum, with a sense of weight in the perinæum, erections, tenesmus, *dysury*, bloody urine, more especially after riding, with its frequent yet interrupted discharge. But the most certain symptom is obtained by sounding.

Relief

Relief may be obtained by uva ursi, two scruples given twice a day, or this may be mixed up with conserve of roses, as recommended in my Physician's Vade Mecum. But the most effectual cure is by solvents. These are alkalescents, which decompose the stone.

It is well known that urinary calculi are composed of calcareous earth, animal gluten, and phosphoric acid, all which principles are derived from the animal and vegetable substances on which we feed. These constitutes the bones. But as the bones, which may be demonstrated, are constantly renewed, the old materials are taken up by the absorbents, and conveyed out of the system with other excrementitious matters by the kidneys. Here calculi are formed, and from thence by the ureters fall into the bladder, where by collecting fresh matter, unless evacuated, they increase constantly in size.

When such calculi are exposed to the action of mild alkalis, a double decomposition takes place, and new combinations are effected, for the alkali unites with the phosphoric acid, whilst the calcareous earth, saturated with carbonic acid, becomes carbonate of lime, and both salts are very soluble in water.

If you take salt of tartar half a dram every two hours, after the third or fourth dose your urine will become turbid, calcareous earth will be precipitated from its phosphoric acid, and this urine will turn syrup of violets green ; or, if on fresh urine you put lime water, phosphat of lime will be precipitated.

Various have been the forms in which alkaline substances have been exhibited by different practitioners, Stephens, Jurin, Lane, Chittick, and Blackrie, and others subsequent to these ; but the most efficacious has been proved to be the *aqua mephitica akalina* recommended by Dr. Falconer.

Respecting Mrs. Stephen's solvent, it is curiously observed by Mr. Cline in his Lectures, that a patient, being searched by the surgeons of Bartholomew's hospital, was declared to have the stone in his bladder, and having taken this solvent was turned out as cured ; in consequence of which she received five thousand pounds from parliament :

parliament : but some time after this he died, when, being examined, the stone was found incisted in his bladder.

Aqua mephitica alkalina, in sufficient quantity, is considered as infallible ; for even the largest stones in a few months have been discovered to be soft, others have been eaten through like a sponge, and in most cases they come away perfectly dissolved. The common dose is half a dram of kali to three ounces of rain water, impregnated with carbonic acid by Sweppe, and taken twice a day ; but four times that quantity may be given with safety and with good effect. The late Dr. Crawford took no less than one ounce of kali every day without any sensible inconvenience to himself.

For the benefit of the poor, Dr. Beddoes has very ingeniously contrived to give an alkali in the form of pills ; and this preparation, which I have introduced in *jaundice*, may be found under that disease.

Dr. Fordyce in his lectures recommended thirty grains of kali to be taken every day ; and delivered it as his opinion, that a larger quantity will not produce more effect. He says that benefit will be found from this small quantity in six weeks.

Dr. Percival speaks highly of soft water, and assures us, that Malvern spring dissolves calculi without other medical assistance.

A gentleman of Southampton, whose life was become a burthen almost insupportable, after having tried every medicine which either physicians or his friends could recommend, was at last perfectly cured in the space of two months by drinking a pint of liquorice tea twice a day.

Cystospastica, from *spasm* in the sphincters of the bladder, which may be either idiopathic or sympathetic, and must be distinguished by attention to the remote cause.

Spasmodic affection is one of the most common causes of ischuria, and is often to be blamed when *caruncles* stand accused of this effect. For when there is an ulcer in the bladder or in the prostrate gland, any acrimony in the urine, such as a prevailing acid, will occasion spasm.

spasm. Dr. Ingenhousz had a patient, whom he cured by *aqua mephitica alkalina*. This gentleman had an ulcer in the prostrate gland, and his sagacious physician detected a predominant acidity in his urine by means of what he calls his *charta probatoria*, which is a strip of paper died with *litmus*, for this, before he took the alkaline water, was turned red by the urine, and afterwards, when the urine became saturated with alkali and ceased to irritate the ulcer, was always blue.

For more general information respecting the cure consult *spasm*.

d. *Cystoplegica*, from *palsy* of the bladder. See *obstipatio paralytica*.

e. *Polyurica*, from distention after long retention of the urine.

It is cured effectually by the introduction of a catheter, and if neglected terminates in inflammation, gangrene, death.

f. *Cystopyica*, from ulcerations in the bladder, and requires demulcents, with the *aqua mephitica alkalina*.

g. *Cystothromboides*, from clotted blood, to be distinguished by antecedent symptoms.

h. *Cystophlegmatica*, from mucus; consult *nephrophlegmatica*.

In both these cases the catheter must be introduced.

i. *Ectopocystica*, from hernia of the bladder or from prolapsus of its interior tunic.

k. *Cystoproctica*, from pressure by the rectum inflated, inflamed, distended by hardened fæces, or obstructed by hæmorrhoids.

l. *Hysterocystica*, from pressure of the uterus when gravid, distended by tumours, or prolapsed.

m. *Atretarum*, from pressure arising from retention of the menstrual flux in the vagina, and requiring assistance from the surgeon.

IV. Ischuria *urethralis*, with swelling of the hypogastrium, frequent vesical tenesmus, and pain in some part of the urethra.

This species contains the subsequent varieties:

a. *Perinæalis*, from some tumour in the perinæum, whether

whether indolent or inflammatory, and to be treated accordingly.

b. *Urethrolithica*, from calculus in the urethra, easily to be distinguished, and to be cured either by venæsection and opium, by anodyne and relaxing fomentation, by oil injected, or by the knife.

c. *Urethrophlegmatica*, from mucus in the urethra.

d. *Urethromboides*, from clotted blood.

e. *Urethropyica*, from pus in the urethra.

f. *Urethrohymenodes*, from a membrane closing the urethra.

g. *Urethrelmintica*, from a worm closing the urethra.

h. *Urethritica*, from *inflammation* in the urethra.

i. *Carunculosa*, from fungus, callosity, and scirrhous tumours either of the canal, or of the prostrate glands, in which the caustic recommended by John Hunter is infallible, but requires a very skilful hand to introduce it.

k. *Hydrocelodes*, from rupture of the urethra opening into the scrotum.

l. *Cryptopyica*, from the retraction of the penis into the body.

m. *Peridesmica*, from stricture by a thread, an expedient adopted by weakly and timid boys to prevent watering their beds.

n. *Phimosica*, from phymosis, or closing of the prepuce by inflammation.

o. *Aspadialis*, from the closing of the urethra, so as to obliterate the passage.

Many of these varieties were singular cases; in none of them can the surgeon be at a loss to know what is indicated to effect a cure.

Genus CXV. Dysuria.

Difficulty and Pain in discharging Urine.

This many authors have denominated *strangury*. Dr. Cullen has six species, which embrace fifteen out of seventeen distinguished by Sauvage.

1. Dysuria *ardens*, with sense of heat, but without any evident

evident disease of the bladder. It is induced either by spices, spirits, cantharides, immoderate exercise, or mechanical injuries, and is cured by demulcents, or, when urgent, requires the antiphlogistic regimen. Sir John Pringle was used to give the subsequent emulsion :

℞ Camph. gr. xv. Amygd. Dulc. Decort. n. iij. Simul tritis, adde paulatim Aq Font. q. s. Colat. Solve Salis Rupell ʒiij. M. f. Emulsio c. c. Co. iij. tertia quaque hora.

That is,

Camphor fifteen grains ; three sweet almonds ground together, with sufficient water to make an emulsion ; Rochelle salt three drams. Take three spoonfuls every three hours.

II. Dysuria *spasmodica*, from spasmodic affection of the sphincter caused by consent. The common occasional causes of *spasm* may be seen in the former part of this work. This species includes the subsequent species of Sauvage, which, as being symptomatic, may be referred to the primary diseases.

a. *Dysuria hysterica*, a symptom well described by Sydenham in his treatise on hysteria as sometimes mistaken for calculus.

b. *Dysuria nephralgica*, occasioned by irritation in the kidneys, whether from calculi or from acrimonious urine. This includes the *dysuria ab ulcere renum* of Sydenham.

c. *Dysuria rachialgica*, from irritation in the bowels producing cholic. Citesius, from whom Sauvage has taken this disease, recommends emetics and cathartics, with oily preparations interposed between them.

d. *Dysuria diabetica*, which seems to be the same with *hysterica*, with this distinction, that limpid urine is discharged only the instant food has been received into the stomach. Dr. Douglas, who describes this disease, saw it in an hysterical patient, in whom it continued for many months without thirst, but attended by atrophy and nocturnal feverishness.

e. *Dysuria herpetica*, from suppression of herpetic eruptions. Dr. Cullen has taken no notice of this, but it seems to be of kin to the *hysterica*, and it certainly belongs to the *spasmodica*.

III. Dysuria *compressionis*, from the pressure of the ad-

joining parts, as in pregnancy ; hernia of the bladder ; obliquity of the womb ; or retention of menstrual blood, occasioned by imperforation of the hymen.

IV. Dysuria *phlogistica*, from inflammation of adjoining parts. This may be induced by *inflammation* of the urethra, or by phlegmonic affection of the prostrate gland, as happens frequently in *syphilis ;* by *hæmorrhoids*, when, protruded from the anus, they stretch the nerves of the urethra ; or by *hysteritus*. For all these the primary disease must be consulted.

V. Dysuria *irritata*, with signs of stone in the bladder. See *ischuria vesicalis*.

VI. Dysuria *mucosa*, with copious discharge of mucus. Lieutaud calls this disease a *catarrh of the bladder ;* and Hoffman, who was consulted in one case, calls it a most rare affection. In the case recorded by him, the hæmorrhoidal flux was converted into *dysuria mucosa*. This learned professor recommended Spa water, cascarilla bark, with essence of amber ; and for the common beverage, a decoction of liquorice, sarsaparilla, scorzonera, and cichory roots, with fennel seeds.

Genus CXVI. Dyspermatismus.

Seminis in actu venereo tarda, impedita, et ad generationem insufficiens emissio.

The student, should he happen to be consulted in such cases, must consider what is the condition of the urethra. If that is free from disease and pervious, his enquiries will be directed to three points :

1. To debility and deficiency of vigour.
2. To irritability and spasmodic affection.
3. To excess of vigor.

In the first case tonics and astringents are required ; in the second, antispasmodics, combined with tonics ; in the third case, evacuants, strict temperance, and refrigerants ; that is, acids and acescents must constitute the chief articles of diet. In this way the noble young Venetian, who by his ambassadors consulted all the most eminent practitioners in Europe, was at last relieved.

Genus

Genus CXVII. Amenurrhœa.

Menses wholly or partly obstructed, without Pregnancy.

That this excrementitious discharge should be regular as to quantity and quality, and that it should observe the monthly period, is essential to health. When it is obstructed, nature makes her efforts to obtain for it some other outlet, either by the eye, the ear, the gums, even by a carious tooth, by the stomach, the lungs, the bladder, or even by the tip of a finger; and from whatever part it is evacuated, it has the same property of not coagulating, like living blood. Nay, so important is this property, that if twice the usual quantity is evacuated with the power of coagulation, even from the same vessels, equal benefit is not received, much less when taken from other vessels by the lancet. See Hunter on the Blood.

When these efforts of nature fail, the consequence may be, 1. Pyrexia and pulmonic affection, which may terminate in phthisis. 2. Spasmodic affections, hysteria, epilepsia, mania, apoplexia. 3. *Chlorosis*; according to the general habit and disposition of the patient.

Hence three species of amenorrhœa naturally present themselves to our consideration.

I. Amenorrhœa *plethorica*, with a full strong pulse.

Van Swieten in his comment has the subsequent remark:

In the plethoric we observe good blood and vessels pervious, yet so distended, that they cannot re-act on the contents. But as soon as by venæsection the quantity of blood has been diminished, the action of the vessels is renewed, and even whilst the blood is flowing from this vein, the menses have been suddenly restored. To such patients strict temperance, or even a vegetable diet, with much exercise, must be prescribed.

II. Amenorrhœa *spasmodica*, in irritable habits, and attended by other spasmodic affections. The predisponent cause is debility: the occasional causes are either sudden frights; or the action of cold at the time of menstruation; as happens after dancing in warm rooms, then

then drinking cold liquids, washing in cold water, or being suddenly exposed to the natural air. This seems to induce spasmodic action in the extremities of the uterine arteries. The proper *emmenagogues* in this species seem to be anti-spasmodics, such as asafœtida, myrrh, camphor, castor, and the warm pediluvium, in the application of which last, we may profit by the cautions of the judicious Hoffman. If the pulse is full, he recommends venæsection, and if the feet are cold, he advises friction, before immersing them in warm or even in tepid water. But though antispasmodics are thus indicated, the most effectual means of relieving constriction in the extreme arteries is by increasing their action, which may be accomplished by stimulants and tonics. The best stimulant in this case is electricity, and the most efficacious tonic is steel and *vital air*, to which must be added exercise, and a generous diet.

III. Amenorrhœa *atonica*, with weak pulse and a relaxed fibre. We have here a general flaccidity of the system, and consequently debility, with torpor causing weak action in the vessels of the uterus.

In this species the indications of cure are, to restore tone to the system in general, and to excite the action of the uterine vessels in particular. The tonics are the same as in the preceding species, and the most efficacious form for exhibiting the steel is in filings mixed with conserve of roses. Five grains of the filings may be given three times a day, increasing the dose. This wonderful and universal distributor of *oxygen* restores vital heat to the extremities, and colour to the cheeks, raises the spirits, increases both the appetite and strength, and in a few weeks makes the catamenia flow.

I have very often prescribed the subsequent :

℞ Ferr. Vitriolat. ʒj. Sach. Alb. ℥ij. M. f. Pulv. c. c. ʒj. Ter. in die superbibendo, Aq. Pulegii, ℥ij.

Take green vitriol a dram ; white sugar two ounces ; mix. The dose is one dram three times a day in penny royal water. To be continued.

For the encouragement of the student, I can venture to assure him, that in five and thirty years experience, these chalybeates have never failed to cure, even when hectic

hectic had appeared, and symptoms of phthisis had created much alarm for the safety of the patient.

Some practitioners place their chief dependence on exciting the uterine vessels by consent with the rectum, when stimulating emmenagogues are passing through the alimentary canal; but I have never had recourse to these.

As to the *amenorrhœa difficilis* of Cullen, in which the catamenia flow sparingly and with much pain, we may remark from Dr. Fothergill, that the patient may take purified opium one grain every hour till the pain goes off.

For further information I must refer the student to the cases and observations of Dr. Whytt, in his inestimable treatise on nervous diseases, from page 176—182.

Class IV. LOCALES.

Order VI. Tumours.

Partial Swellings without Inflammation.

This order comprehends fourteen genera.

1. Aneurisma. 2. Varix. 3. Ecchymoma. 4. Schirrus. 5. Cancer. 6. Bubo. 7. Sarcoma. 8. Verruca. 9. Clavus. 10. Lupia. 11. Ganglion. 12. Hydatis. 13. Hydrarthus. 14. Exostosis.

Genus CXVIII. Aneurisma.

A soft Tumour on Arteries with Pulsation.

This may be either active or passive, either from increased action of the blood against the coats of the artery, or from diminished resistance of these coats when they have been strained, bruised, or wounded. The former always happens near the heart, the latter in the extremities. By an invariable law of the animal economy, pressure on a part produces its absorption. But here it is curious to observe the efforts of nature to relieve herself. When an aneurismal sack in the aorta presses against the back bone, the absorption begins at the external surface of the artery, where it comes in contact with the bone, and continues till the whole is absorbed, leaving the bone in

in contact with the blood. The surrounding parts then strongly unite by the adhesive process, and form a channel for the blood, which channel is thus preserved intire, even when the bones themselves have been absorbed in consequence of pressure.

Thus it sometimes happens where no assistance can be derived from art. But should the aneurism be near the surface, the skilful surgeon will continue to assist the weakened artery, and to resist the pressure of the blood, till the coats of the artery have recovered their tone.

My friend Mr. Gimbernat, of Madrid, has contrived an instrument, by which he has cured many deplorable cases of aneurism in the popliteal artery. It is composed of a steel plate perforated in the middle by a screw to regulate the pressure, and kept in its place by two steel rings, the superior ring to grasp the thigh immediately above, and the inferior ring to embrace the leg just below the knee. Each ring consists of five pieces, with which one, rivetted to the steel plate, is connected with two others by horizontal joints, to admit of bending the knee, either in sitting or in walking. From these proceed two other pieces, with which they are connected by perpendicular joints, and which being opened, admit the limb. These might clasp together in a variety of ways, but for the sake of neatness, and that the same instrument may be adapted to a leg of any size, one piece enters into the other and catches by a spring.

The end of the screw which perforates the plate is rivetted to a smaller plate, which supports the pad or compress ; and thus the patient can give that degree of pressure which is needful to support the weakened part.

By similar contrivances he relieves other cases of aneurism, even that of the carotid arteries. In recent cases this method has made perfect cures, and in cases of long standing it has prevented rupture of the artery. When this however fails, relief may be procured by *double ligatures* above the aneurism, in the manner first practised by John Hunter.

Genus

Genus CXIX. Varix.

A soft Tumour on Veins without Pulsation.

When varices press upon the bones they should be either relieved in the manner already described in cases of aneurism, or when that proves ineffectual they must be extirpated.

Of *hæmorrhoids* I have already treated under hæmorrhages, the fourth order of the pyrexiæ. For external application the Spanish physicians recommend their unguentum malorum insanorum; but as that fruit is not to be obtained in England, the ung. alb. camphorat. with a few drops of ol. buxi, may supply its place. To this a few drops of laudanum may be added, if occasion should require it.

To keep the body cool and open give the following to the size of a nutmeg twice a day.

℞ Elect. è Sennâ. un. 2. Flor. Sulph. dr. 3. Nitri. puri, dr. 2. Magnes. Alb. dr. 1. Ol. Carui, gtt. 3. Syr. ex Althæ. q. s. f. Elect. c. c. M. N. M. bis die.

Lenitive electuary two ounces, sulphur three drams, nitre two drams; magnesia one dram; oil of carraways three drops; syrup of marshmallow sufficient for an electuary; take the size of a nutmeg twice a day.

Genus CXX. Ecchymoma.

A black and blue Swelling either from a Bruise, or from morbid Extravasation of Blood, as in Typhus, the Plague, and Scurvy.

When such injuries have been received as naturally produce extravasation, the part should instantly be kept as warm as blood, and if it is a part which can be immersed, it should be steeped for a considerable time in brandy. In this way I have seen the worst contusions pass without the least appearance of extravasated blood.

But if extravasation has taken place, and to a great extent, we must have recourse to venæsection and moderate cathartics with warm diluents, a cool regimen and topical applications in the form of poultice or fomentations, to keep the parts warm, and gently to stimulate the vessels.

If

If the tumours become less, and do not inflame, they may safely be left to nature, for the absorbents will take up the extravasated blood. Even should inflammation follow, we must still endeavour to promote a resolution of the tumour, which may be frequently obtained by *pressure*, when applied to a degree just beyond the point of ease, for this sets the *absorbents* of the part to work for the purpose of removing, when it is removable, the pressing substances, one of which in the present case is the extravasated blood.

Should however these attempts be frustrated, the inflammation may be safely left to suppurate; after which it will be treated as an *ulcer*.

Genus CXXI. Scirrhus.

A hard Tumour commonly of a Glandular Part, Indolent, and not readily Suppurating.

The proximate cause seems to be want of action in the vessels of the part affected. This we collect from a consideration of the remote causes, which are such as either debilitate the system in general, or destroy the tone of the vessels in parts subject to their action. The same appears from hence, that weakly, relaxed, and *scrophulous* patients, with women at the change of life, are most liable to have indurated glands.

The indications of cure, naturally deduced from this view of the disease, will be, to excite the action of the absorbents.

This may be accomplished by evacuants, which excite their action by consent, accompanied by topical applications, and followed by general tonics.

For an evacuant we cannot have one more efficacious in this case than calomel, which may be taken at night, and carried off in the morning by a gentle cathartic of rhubarb, senna, and cream of tartar.

Many, for the external application, use mercurial ointment. Van Swieten recommends acetous fomentations, and a liniment composed of gum ammoniac with vinegar of squills, which he adopts from Hildanus, and the form of which I find preserved by Hoffman.

℞. Gum

℞. Gum Ammon. un. 1. Olei Amygdalar, et Olei Liliorum Alb. Pinguedinis Gallinæ anna un. 2. Succi Citutæ, un. 4. Aceti Scillit. un 2. M. et digere per 24 horas, et spissum fiat linamentum.

Dr. Simmons, in a case of scirrhous testicle, gave hemlock (conium maculatum) in powder, beginning with a scruple, and increasing the dose to a dram a day, and at the same time corrosive sublimate a quarter of a grain per day, and in fourteen days the scirrhus began to mend.

In the south of Spain the physicians assured me, that they found the conium maculatum very efficacious in curing the scirrhous tumours, more especially when assisted by mercurials. Certain it is that the conium in warm climates is a more active medicine than it is in our more temperate and humid island.

All this must be understood of recent cases; for when the inveterate scirrhus is much enlarged, and becomes hard like stone, the preceding remedies would come too late, and nothing remains but either patience or the knife.

This however is not the case in one species of scirrhus, the *bronchocele*, for that, when even inveterate, may be carried off by the absorbents.

Sauvage, who makes *bronchocele* a genus, includes in it four species.

1. *Bronchocele botium*, which I should rather call *bronchocele steatomatosa*.

2. *Bronchocele ventosa*, which belongs to *pneumatosis*.

3. *Bronchocele carcoma*, which I suspect to be *steatomatous*.

4. *Bronchocele aquosa*, the only species noticed by Boerhaave, and which belongs to *anasarca*.

The scirrhous bronchocele is clearly steatomatous, and as such may be speedily cured by soda. It is very frequent in the vale of Pewsey, and during five and thirty years I have never failed to cure it in all who have applied to me for my advice.

I formerly gave lozenges of burnt cork, burnt sponge, and pummice stone, in equal parts, and always found this sufficient without any other medicine or application, but lately, considering that it is the alkali of these lozenges which combines with the fat collected in the thyro-

ide gland, and makes a soap, I have confined myself wholly to burnt sponge, which abounds with soda. This is made into lozenges, one of which, weighing half a dram, is put under the tongue every night.

℞ Spongiæ exustæ. ʒiij. Syr. ex Altheæ. q. s. f. Trochisci 60 horum unus h. s. lingua suppositus ibi per noctem lente delinquescat.

Genus CXXII. Cancer.

A hard Tumour of a glandular part, painful and obstinate, which terminates in the foulest Ulcer.

What I have said respecting scirrhus in the preceding genus is applicable to cancer, that deplorable disease to which all the glands of our machine are subject. The eyes, the nose, the tongue, the palate, the cheeks, the lips, the groin, the axillæ, the uterus, and the breasts of women, are the parts most frequently infected, and those in which its ravages are most severe.

In women it commonly appears about the time when menstruation ceases, and the first alarming symptom is perceived when they move the arms backward, so as to put the fibres of the pectoral muscle on the stretch. On examination, they then discover a small lump, perhaps not bigger than a hazel nut. On recollection they commonly remark, that two or three months prior to this period, they had a small discharge of blood from the nipple, which stained their linen. This symptom proves that some alteration is taking place in the structure of the breast. The tumour goes on enlarging, sometimes rapidly, till the whole glandular substance becomes scirrhous. The superficial veins then become conspicuous, tortuose, enlarged, and very black.

When the tumour is much increased, one part of it appears softer than the rest, and when ulcerated discharges a saneous ichor, but no pus. Pain then becomes constant, the ulcer spreads, and a luxuriant fungus arises, which it is not easy to restrain.

The discharge, usually copious, excoriates the skin, and produces excruciating pain, which gradually destroys the patient.

Before

Before ulceration takes place in the external surface, the axillary glands are much enlarged, which arises probably from an absorption of the cancerous virus, and the tumour, at first moveable, becomes fixed to the pectoral muscle.

In the beginning of this disease the swelling may be retarded by the antiphlogistic regimen in its full extent, and by external applications. In this state electricity with the exhibition of hemlock have done great things, particularly in Germany and Spain, where it is of a superior quality, and mercurials, both internally and externally, may be safely tried. But in England the flores martiales *(ferrum ammoniacale)* have been the most successful medicine. This preparation of iron may be given in any kind of mucilage, and not only alleviates pain, but diminishes the tumour. Mr. Cline, in his lectures, particularly mentioned the case of a lady in which the flores martiales constantly produced these effects, after other medicines had been tried in vain. From his account of this lady there is much room to hope he will be able to perfect a cure.

The famous cancer powder of *Plunket*, exhibited by Martin of Pennsylvania, and given by both these quacks with no contemptible success, has been detected to be arsenical. This medicine is perhaps the most active tonic in the materia medica, and deserves to be fairly tried in all desperate cases, where a powerful tonic is required. A good preparation of it by Dr. Fowler has been already mentioned, as used with great success in intermittents.

When, notwithstanding these endeavours to check the progress of the tumour, it continues to increase, there is at least one source of hope remaining for a cure, which is by speedy extirpation. But should this be thought inexpedient, and should the ulcer continue to extend its limits, even then pain and all offensive smell may be prevented by the external application of carbonic acid air, in the manner first practised by Dr. Ewart, and described in his publication. At Bath he had a lady under his care, whom I visited. As the ulcer was covered, I could form no idea of its condition or of its disposition to heal; bu

but she was perfectly freed from pain, and there was not the least offensive smell.

The application here described can never be injurious, nor is it attended with difficulty ; for when the bladder is agglutinated to the breast, it may easily be filled with the carbonic acid air from another bladder, in which it has been collected. This supply may be derived from the surface of fermenting liquors by a syringe, and by the same instrument may be forced into the bladder, which serves as a reservoir.

Genus CXXIII. Bubo.

A suppurating Tumour of conglobate Glands.

Buboes may be symptomatic of scrophula, of syphilis, or of the plague ; and, as Sauvage judiciously observes, may be either scirrhous, phlegmonic or œdematous. Of these varieties the phlegmonic are easily resolved and quickly suppurate ; the œdematous resolve, but never suppurate ; the scirrhous resist resolvents, yet never suppurate.

I. *Scrophulous buboes* call for tonics, preceded by gentle cathartics ; in them the metallic *oxyds* are particularly useful.

II. *Pestilential buboes* are critical, yet require to be opened by the lancet, and to be assisted by poultices to expedite their suppuration.

III. *Syphilitic buboes*, being frequently ill managed by ignorant practitioners, demand a particular discussion.

These tumours in the lymphatic glands of the groin, arising from impure connexion, are more or less painful according to the degree of *inflammation*, which depends on the quantity and quality of the absorbed virus with the irritability of the system. The cure therefore might be attempted, as I have fully explained, when treating of the Phlegmasiæ, either 1. by resolution ; or 2. by suppuration ; but the latter should be carefully avoided. My reason for this opinion is, that when a syphilitic bubo suppurates, it becomes a kind of secretoty organ, whose action is increased by the stimulus of oxygen in the atmospheric

mospheric air, whilst the secreted matter, which not only retains its specific nature, but acquires virulence by contact with the air, being absorbed in great abundance, produces general infection in the system.

The cure therefore by resolution should be preferred to suppuration.

This may in most recent cases be accomplished by venæsection, general or topical, by cathartics, and principally by friction with mercurial ointment, because by this application the small quantity of syphilitic virus contained in a bubo, although taken up by the absorbents, carries with it the proper antidote, as it circulates throughout the system.

Should however the bubo have acquired such an extent of inflammation, as not to be resolvable; the suppurative process must be then promoted by cataplasms and fomentations; and, when it arrives towards maturity, it must be opened either by the lancet or by caustics.

In this state the subsequent absorption must be carefully prevented by keeping the ulcer clean, and the system must be guarded from general infection by mercurial ointments.

Genus CXXIV. Sarcoma.

A soft Excrescence resembling Flesh, not Painful.

These excrescences arise from different parts of the body. From 1. The carunculæ lachrymales. 2. The eyelid, either externally, or internally. 3. The Sneiderian membrane. 4. The gums. 5. The scalp. 6. The back. 7. The uterus. 8. The vagina. 9. The cremaster muscle of the scrotum.

When it is derived from the Sneiderian membrane, it arises from a very narrow basis, but grows larger as it proceeds either through the nostrils or turns back into the throat. As this kind of excrescence, known by the name of *polypus*, has but few blood vessels, it may be removed without hazard, either by ligature or by the forceps, accordingly as it is situated, either near the anterior opening of the nostrils, or higher up. When this operatio-

eration has been effectually performed, the *polypus* returns no more, and the hæmorrhage, which follows, may be stopped by thrusting lint up into the nostrils.

When it affects the testicle, it is known by the name of *sarcocele*, and arises commonly from contusion of that tender organ. In some cases the injury extends no farther than the testicle ; but in others it creeps along the cremaster muscle, situated on the outside of the tunica vaginalis, and stretches away, over the spermatic vessels, to the inguinal ring. In the first case the extirpation may be performed with safety ; but when the sarcoma reaches to the ring, little good can be expected from the operation, nor can it be prudently advised. This will be evident if we consider, 1. That the excrescence may have penetrated the inguinal ring itself, and have passed into the abdomen, where the knife cannot be used. 2. That to attempt a ligature of the spermatic blood vessels so high up as the ring, will be difficult and dangerous in the extreme, because they retract, when cut ; yet if this ligature were not secured the patient would be lost.

When sarcomatous excrescences arise from other parts of the body accessible to ligatures, they may be extirpated with ease.

Genus CXXV. Verruca.

A Wart.

A Tumour hard, scabrous, and void of Sensation.

Whatever produces inflammation at the root, or death in the wart itself, as happens by the application of a caustic, will excite action in the absorbents to separate not only between the living and the dead, but between the sound parts and the diseased. For it is a general law of the animal economy, that if a part is organically injured, the sound part beneath relaxes, and shews distinctly the limits of the disease, so that a separation begins to take place although the actual death or destruction of the part, as by a caustic for instance, has not reached so far. It is upon this principle, as John Hunter has observed,

served, that arsenic, superficially applied, removes tumours.

From what has been said, it will appear to be nearly a matter of indifference, as to the effect, what kind of caustic, actual or potential, is applied. Some remove their warts by the juice of celandine *(chelidonium majus)*, some by spurge *(euphorbia helioscopia)*, others by juice of houseleek *(sempervivum tectorum)*. Some prefer the actual cautery, others are better pleased with either burnt alum, with blue vitriol, with vitriolic acid, or with the lunar caustic, and others again are satisfied with ligatures, when they can be applied.

The *verruca syphilitica* belongs to *syphilis*. After curing the primary disease, the tops of these warts may be cut off, and then a little powder of savine may be applied to them.

Genus CXXVI. Clavus.

A Corn.

A thickening of the Cuticle, hard, lamellated.

The best instrument for cutting corns is a pair of scissars, short in the blades and sharp in the points, because by these there is no danger of going suddenly so far as to make them bleed, provided the person operates on his own corns.

A radical cure may be obtained by suffering them to grow freely without pressure, and this effect may be obtained by sticking plasters, accumulated in proportion as the corn grows up, if each plaster has a hole in the middle for the corn to penetrate. This however requires more attention than most people can command.

Genus CXXVII. Lupia.

A Cyst under the Skin, soft, moveable, indolent.

This might have been considered as a species of scirrhus, because the matter contained in the cyst is steatomatous. When this matter is liquid and soft as honey, Sau-

vage

vage calls the tumour *lupia meliceris ;* when it resembles suet, he gives it the name of *lupia steatoma.*

Extirpation by the knife is safe, easy, and effectual, provided no part of it is left behind.

Genus CXXVIII. Ganglion.

A hard Tumour, moveable on the Tendons.

Ganglions, upon the tendons, are inclosed in the same cellular membrane which forms their vagina, to facilitate their motion. They occupy their station also on the annular ligaments and capsulæ mucosæ, through which they pass. These tumours, although indolent, being yet very troublesome by pressing on the tendons, it becomes needful to remove them. This may in common be effected by exciting the absorbents, the best way of doing which is by pressure, for this, when applied to a degree just beyond the point of ease, calls forth their activity to remove, when it is removeable, the pressing substance, and that substance is the ganglion. I need scarcely add, that the pressure must be uniform and long continued.

Another method of cure is, to give repeated and hard blows with a hammer, for this, by bruising, disturbs the organic structure of the part, and thereby, according to a beautiful law of the animal economy, excites the absorbents into action for the purpose of conveying it away.

When the ganglion, by neglect, has been suffered to enlarge itself, it may be vain to attempt its resolution in these ways. Nothing then remains but to remove it, either by the knife or by a caustic. The latter in skilful hands may have the preference ; but, considering the irritability of tendons, with the danger attending any violence offered to them, and the greater hazard of destroying the coats of some artery, it must be evident, that much patience and the most watchful attention are required ; when in such a delicate situation we advise the application of a caustic.

My friend M. Gimbernat, being required to remove a large ganglion on the wrist of the princess royal of Spain, which

which was close to the radial artery, after having tried in vain what could be done by pressure, had recourse to caustics, which were so slowly and so cautiously applied as to require more than twelve months for perfecting a cure.

Genus CXXIX. Hydatis.

A cuticular vesicle filled with an aqueous fluid, resembling that which arises from combustion, but not painful, unless when broken.

Although these cuticular vesicles are called hydatides, it is not meant by this appellation to imply, that they contain *tæniæ hydatigenæ*, which are found in cases of encysted dropsy, nor, as I apprehend, do they require medical assistance.

Genus CXXX. Hydarthus.

A white swelling on the joints, chiefly in the knees, small at first, not discoloured, very painful, and destroying the mobility of the joint.

It is a disease of the lymphatics in the part affected; for either the exhalants are relaxed, or the absorbents become atonic, in consequence of which there is an accumulation in the synovial glands, which by *pressure* causes irritation and in the end ulceration of the parts.

The predisponent cause seems to be laxity of the solids, and the occasional cause commonly is some contusion.

The indications of cure are to excite the action of the absorbents and to brace the solids; the former by emetics and cathartics, but particularly by setons, by burning moxa on the part, and by repeated blisters round the joint; the latter by tonics and astringents, particularly by bark and steel.

Let the student consult further what has been said on scrophula.

Genus CXXXI. Exostosis.

A hard Tumour on a Bone.

The bones are subject to the same diseases as other parts of the animal machine, for they equally abound with nerves, arteries, veins, cellular membranes and lymphatics. The interstitial parts of this contexture we see occupied by phosphorated lime and gluten.

This appears by injections, when accurately made, for the calcareous earth may be carried off by marine acid diluted much with water, and the animal gluten may be washed away, after which the preparation being placed in oil of turpentine, the vascularity of the texture will be beautifully distinct.

Bones are not for any given period unalterably the same, but are incessantly wasting and renewed. Nay such is their renovating power, that in case of fracture they soon form a callus ; and in cases of *necrosis*, whilst the absorbents carry off the dead portion, proper vessels go to work to surround it with new bone, which at the two extremities connects itself to the living portions of the old.

In this operation we admire the efforts of nature to relieve herself ; but as in every thing beneath the sun, good and evil are intimately blended ; and as it sometimes happens, that the laws provided for the health and well being of the animal may give occasion to disease ; so is it here ; for this ossific faculty, to which we are indebted for health, strength, locomotive power, may for the support of our animal existence, in certain circumstances, produces morbid ossifications and exostoses, which may either destroy us if they are the cause of apoplexy, or render life a burthen, when they occasion either epileptic fits or palsy.

It is commonly active inflammation in a bone, which lays the foundation of the disease in question, and this may be occasioned either by topical violence or by constitutional affections.

The topical violence may be from either wounds or contusions,

contusions, and the constitutional affection may be rachitis, syphilis, scorbutus, scrophula.

Hence Sauvage enumerates the subsequent species of exostosis.

I. *Exostosis benigna*, occasioned merely by wounds, pressure, or contusions, and attended by the mildest symptoms ; yet incurable, unless by extirpation.

II. *Exostosis rachitica.* This species attacks rickety children, and such adults as have been formerly subject to *rickets*. It is incurable ; for amputation cannot remove the cause.

III. *Exostosis cancrosa.* In this the tumour is brown, and the veins are varicose; but the most certain symptom is *cancer* in any other part.

IV. *Exostosis scrophulosa.* It is distinguished by the common symptoms of *scrophula* in the glands, the upper lip, and the eyes.

V. *Exostosis scorbutica.* For the symptoms, the gums, the teeth, the skin,must be examined, and the treatment must be the same as in the primary disease.

VI. *Exostosis syphilitica.* It is the consequence of impure connexion, and the species may, from that circumstance, be ascertained, provided other symptoms of inveterate lues are not wanting. These are ulcers, buboes, pustules, nocturnal pains, &c.

This scourge of illicit intercourse is most unfriendly to the bones. In them the syphilitic virus spreads, and in them its ravages are most severe. My friend Wathen has preserved a skull, which is like a honey comb ; and in the cabinets of the chirurgeons I have seen ribs, the sternum, clavicles, and vertebræ,perforated in a thousand places.

Yet deplorable as are the effects of this disease, its progress may be stopped by mercurial frictions long continued ; after which, if there be external caries, it must be destroyed either by burning or by potential caustics : if there is *spina ventosa*, or internal caries, an opening must be made by a trepan into the cavity of the bone, and the ulcer must be cleansed.

Sauvage mentions three other species ; but as they require no special attention, I omit them.

Class

Class IV. LOCALES.

Order VI. Ectopiæ.

Parts displaced.

In this order we have three genera.

1. *Hernia.* 2. *Prolapsus.* 3. *Luxatio.*

Genus CXXXII. Hernia.

A Rupture.

The protrusion of a soft part, which yet remains covered by the common integuments.

SECTION I.

Introduction with Enumeration of the Species.

It is evident that hernia may be either active or passive; it may be produced either by violent exertions expelling the part; or it may happen from preternatural debility, relaxation, and diminished power of retention. In the former case we have a strong pulse with pain, heat, and tension: in the latter the pulse is weak, pain not severe, and heat is moderate. In one case it is difficult to restore the part; but when restored, it is retained: in the other to restore is easy, but not so to make the part continue in its place.

When hernia is the effect of violence; lubricants, laxatives, anodynes, and venæsection are required: but when it is the consequence of relaxation and debility, the tonic plan must be adopted, with air, exercise, a generous diet, aromatics, bitters, bark, and steel.

Sauvage under this genus has introduced the subsequent species arranged by the learned and most laborious D. Cusson of Montpellier, 1. Enterocele. 2. Epiplocele. 3. Gastrocele. 4. Hepatocele. 5. Splenocele. 6. Hysterocele. 7. Cystocele. 8. Encephalocele.

SECTION

SECTION II.

Of Enterocele.

ENTEROCELE is an hernia of the intestines. Sauvage, who has made this one of his genera, arranges under it no less than five and twenty species: but as these lead to distinctions which are foreign to my purpose, I shall here omit them. It is sufficient to observe, that the intestine may pass either through the inguinal rings, the crural arches, the oval foramina, the ischiatic semilunes, the umbilical ring; or after wounds through the muscles of the abdomen, according to which circumstances the hernia is called, a. *Inguinalis*. b. *Cruralis*, or *femoralis*. c. *Ovalaris*. d. *Ischiatica*. e. *Umbilicalis*. f. *Ventralis*; or, from the place to which the *hernia inguinalis* descends, it is denominated *scrotalis* and *vaginalis*.

It may likewise be observed, that hernia appears in three conditions; either A, simple and incysted, which is, when the intestine alone is protruded with a portion of the peritonæum. B, compound and incysted, when the omentum is protruded with the intestine, but the peritonæum is not ruptured. C, not incysted, when the peritonæum itself is ruptured. And in addition to these distinctions, it must yet be remarked, that the hernia may be *strangulated* or not, as I shall immediately have occasion to explain.

Of the above mentioned varieties of hernia, the *inguinalis* and the *femoralis* are the most important, as being most common, and requiring most knowledge and attention.

In the *hernia inguinalis* the intestines passed through the same ring with the spermatic vessels; and in the *hernia femoralis* it escapes under the crural arch with the crural artery and vein. The circumstance which renders these two species peculiarly hazardous is, that they are more subject than the other species to be strangulated, which not only prevents reduction, but stops the peristaltic motion of the intestine, impedes circulation through

through the arteries, and, producing gangrene, very speedily destroys the patient.

Strangulation may be caused either by spasmodic stricture of the aperture, through which the intestine passed, or by inflammation and distention of the parts protruded.

The cure therefore must be attempted by speedy and copious venæsection, by fomentations, and by manual operation.

The method of *reduction* practised by my valuable friend M. Gimbernat, of Madrid, is so ingenious, and at the same time so successful, that I shall give it in detail. He places the patient on his side opposite the hernia, with his body a little bent and lower than the pelvis, in order to relax the muscles of the abdomen. With the same intention the head is brought forwards towards the chest, and in the *hernia femoralis* he elevates the thigh, on which the hernia is, yet so as not in the least to obstruct the operation. Sitting then by the bedside, with his hand, which is nearest to the patient, he grasps the tumour at its base, which is the upper part, and with his three first fingers he compresses it all round to diminish its diameter, at the same time with the fingers of the other hand he pushes the apex, which is the lower end of the tumour, upwards and inwards, to direct it towards the crural arch, because it cannot be reduced in any other direction. He has sometimes found that more than one hour was required for this operation. When the patient is fatigued he ceases both to press and push, but yet never quits his hold, and when he renews these efforts he increases gradually their force.

Of numerous hernias treated by him in this way, and many of them desperate, those which have not been reduced have been very few.

It may be needless to add, that this method is improper if the tumour is inflamed and very painful, for in such circumstances there is no safety for the patient unless in the cruent operation, that is in the dilatation by the knife, of the part which causes the strangulation.

This operation in the *inguinal* and *umbilical hernias* is safe and easy, but, by the usual methods, in the femoral hernia,

hernia, it has been found both difficult and dangerous in the extreme. Yet in the way first practised by M. Gimbernat, the reduction of hernia femoralis may be rendered the most simple and most safe of any cruent operation practised in cases of strangulated hernia, for neither the epigastric arteries nor the spermatic vessels can be injured by his bistoury.

For the *cruent operation*, in *femoral hernia*, after the sac has been properly laid open, the patient must be placed upon his bed, as for the reduction, and, if the intestine is sound, the operator must endeavour to reduce it. For this purpose a little more of the intestine must be drawn out of the abdomen, because sometimes the strangulated part is affected by such strong spasmodic constriction, as not to allow a passage to the fæces contained in the protruded portion of the intestine. This frequently is the only impediment to reduction, and is commonly overcome, if there is no adhesion, by bringing to the arch a part of the intestine, which, not having suffered strangulation, will not be constricted like that which has laboured under it without remission for hours or for days.

If, as rarely happens, the reduction cannot be obtained in the way above described, it will be needful to divide the part which causes the strangulation. But, previous to this operation, the patient must evacuate his urine, that his bladder may be free from danger of being wounded by the bistoury.

When therefore the patient is stretched upon his bed, so as to present the part most commodiously for the operator, a director or grooved probe, with a channel of sufficient depth and a blunt point, must be introduced along the internal side of the intestine, that is between the intestine and the pubis. This must be directed obliquely inwards, till it has passed the crural arch, the entrance to which will be perceived by increased resistance, and its having passed will be ascertained when the point of the director rests upon the pubis. Then with his left hand, if the hernia is on the right side, or with his right hand if it is on the left, the operator keeping the point of

of his director firmly resting upon the branch of the os pubis, in such a position that the back of the director shall be turned to the intestine, and its groove towards the symphysis pubis, when consequently the two edges will be turned one of them downwards, the other towards the crural arch, he must with the other hand introduce into the groove of the director a bistoury, with a narrow blade and blunt point, till it enters the arch, which will be known, as before stated, by a little increase of resistance. The bistoury must then be very cautiously pressed forward to the end of the groove, and, employing both hands in concert, the operator must conduct both instruments together close along the branch of the pubis towards its symphysis, so as at the same time to draw them out.

By this easy operation the duplicature or expanded aponeurosis of the abdominal muscles, which is turned inwards and upwards more than an inch, and which forms the crural arch, is divided from its internal border, to the depth of about seven lines, and within four or five lines of its angle, at its insertion along the crest of the pubis. The remainder of this duplicature is left attached to the inferior pillar, of which it is the continuation.

This simple incision being thus accomplished without the smallest danger, the internal border of the crural arch, which alone forms the strangulation, is considerably relaxed, and the parts are reduced with the greatest facility.

Pregnant women must be much inclined to the side opposite from the hernia, that the uterus may not be injured.

After the operation, the lips of the incision must be brought together and secured by dry stitches, over these a simple compress with unguentum ceræ must extend two inches beyond the suture to prevent the introduction or even the access of air. On this dry lint and other compresses must be supported by convenient bandage, and the patient must keep his bed, with the thigh elevated and the body incurvated, so as to relax the abdominal muscles and prevent strong pressure of the intestines against a weakened part. In five or six days the dressing may

may be changed, and when the patient rises from his bed he must wear for a great length of time the *spica bandage*. Temperance with quietness must be recommended, and costiveness must be avoided.

When this salutary operation has been neglected, all the distressing symptoms become aggravated; pain, sickness, nausea, and vomiting, the fruitless efforts of nature to relieve herself, ensue; and as these prove vain, she withdraws her vital energy from the strangulated portion of the intestine, now rendered not only useless but worse than useless, leaves that part to mortify, and then excites the needful action of the absorbents to make a separation between the living and the dead. Nor do her efforts terminate in this separation, for, unless death prevents, which is most frequently and speedily the case, the adhesive inflammation may take place between the external teguments, and the superior portion of the intestine, so as to form a new anus, or the two living portions may unite and remedy the evil.

Van Swieten records three curious cases, in the first of which, after the hernia had continued eight years, it mortified and cast off a portion of the intestine in length about eight fingers, yet in less than five weeks the economy of nature was perfectly and spontaneously restored.

In the second case, when the length of six fingers had perished by gangrene, the surgeon passed a thread through the mesentery, and retained both the living ends of the intestine in the aperture of the wound with a view of making this serve the purpose of the anus: and in a month these living parts were perfectly united.

The third was still more remarkable, for in this the Duke of Brunswick's surgeon cut off a considerable portion of the intestine, after which putting the superior extremity into the inferior, he slightly fastened them together by a suture, and replaced them. This patient lived afterwards in perfect health, till, at the distance of twelve months, she had a pleurisy, and died. After death the parts were found united, and were preserved in the cabinet of Heister.

Queralto, first surgeon to the Spanish army, is report-

ed to have performed this operation with success, by introducing, as above stated, the superior extremity into the inferior after he had separated the part destroyed by gangrene.

SECTION III.

Of Epiplocele.

EPIPLOCELE is an hernia of the omentum, either simple, compound, saccated, or not saccated. It is most common in the umbilical ring, but it may be seated in the other parts, which are subject to enterocele. It is attended by much pain, more especially when the patient attempts to walk erect, but it is not affected by efforts to evacuate the fæces.

It may safely be extirpated by ligature.

SECTION IV.

Of Gastrocele.

GASTROCELE is an hernia of the stomach, caused by violent efforts in vomiting or lifting weights, more especially after the muscles of the abdomen have been wounded.

It is specifically distinguished by pain in the stomach after eating, by loss of appetite and vomiting; but more especially by ease in an horizontal position.

The cure is to be effected by reduction, by wearing a truss, by relaxing the muscles of the abdomen, by strict temperance, and by tonics.

SECTION V.

Of Hepatocele and Splenocele.

HEPATOCELE is an hernia of the liver.

The cases adduced were in new born infants and in the umbilical ring. These seem to have been from natural defect in the organization, for the liver is not a floating viscus.

SPLENOCELE is an hernia of the spleen.

Two cases are adduced by Ruysch and Hildanus. In both the spleen was much enlarged and scirrhous.

SECTION

SECTION VI.

Of Hysterocele.

HYSTEROCELE is an hernia of the womb.

It has been occasioned by violent muscular efforts, by blows on the abdomen at the time of gestation, if preceded by either wounds or abscess; because these in the abdomen do not cicatrize so well as in parts that are at rest. Ruysch relates the case of a woman, who becoming pregnant after an ulcer had been healed in the lower part of the abdomen, the tumid uterus descended into a dilated sac of the peritonæum in that weakened part, till it hung, with the included fœtus, at her knees. Yet, when her full time was come, the midwife reduced this wonderful hernia, and, in a natural way, she was safely delivered of a son.

SECTION VII.

Of Cystocele.

CYSTOCELE is an herina of the urinary bladder.

It may pass either by the foramen ovale, the inguinal rings, or the crural arch. It is always affected by the presence or absence of urine in the bladder, and may be therefore readily distinguished from other species. When inflamed, it is attended by acute pain, heat, fever, vomiting, and hiccough. In this case the antiphlogistic plan must be pursued to prevent a gangrene.

The reduction must be attempted in the same way as in the *hernia intestinalis*. After which, if it has been reduced by taxis, a proper truss must be applied, but if by the *cruent operation*, then the spica bandage must have the preference.

SECTION VIII.

Of Encephalocele.

ENCEPHALOCELE is an hernia of the brain.

This has been frequently seen in new born infants, arising from defect of ossification in the cranium, and in adult

adults after part of it has been removed by fracture, by caries, or by the trepan. In such cases a portion of the brain has been protruded by the natural distention communicated to it at every inspiration. To prevent this, and to secure the brain from such pressure, as would produce deep sleep, apoplexy, death, the apertures are usually covered by metallic lamina, chiefly of lead, adapted to their shape and size, with shoulders to keep them from falling through the cranium.

Genus CXXXIII. Prolapsus.

The Protrusion of a soft Part uncovered.

Dr. Cusson, and after him Sauvage, considers this as a superior order, to be distinguished into genera and species; but we shall be contented with noticing these as so many species and varieties.

I. *Exophthalmia* is a prolapsus or protrusion of the eye, which, according to these nosologists, may be,

a. *Exophthalmia hydropica.* The bulb of the eye increases, and the sight is gradually impaired. The cornea is elevated, and the iris seems to be sunk. The pupil becomes almost immoveable, pain is felt at the bottom of the eye, and there is involuntary flux of tears. It is in truth only a *dropsy* of the eye, known by the name of *hydrophthalmia*, and belongs to *caligo*.

It is cured as *dropsy*, and, if need be, the paracentesis must be resorted to.

b. *Exophthalmia purulenta.* This follows in consequence of violent inflammation external and internal, produced by the irritation and distention in exophthalmia hydropica. This accumulation of pus in the chamber of the eye is called *hypopyon*, and requires the lancet. It belongs properly to *caligo*.

c. *Exophthalmia cancrosa.* It is attended with intensity of pain and total destruction of organic structure. No relief is to be expected but in extirpation.

d. *Exophthalmia traumatica.* To be treated as a wound.

e. *Exophthalmia a protuberantia.* This, properly speaking, is the only exophthalmia, and the protuberance may

may be *exostosis*, for which see genus 131; *scirrhus*, for which consult genus 121; *hydatides*, or other encysted tumour, as in *dropsy*, or it may be merely fat; but the most common protuberance is *polypus*, which may sometimes be extracted, if not too deeply seated, and the eye may be replaced, as was performed by my friend M. Gimbernat, in a case which his son communicated to me.

The subsequent letter from one of the first occulists in our metropolis, contains a most interesting case of *exophthalmia*:

Captain P———, of America, on his arrival in England, applied to me with a complaint of his left eye. On examination I found a complete paralysis of the upper eyelid, and an increased prominence in the eye itself: on further investigation I found the prominence of the eye did not proceed from any enlargement of the globe itself, but from some substance occupying the posterior part of the orbit. This substance of tumour also seemed not to be confined to the orbit only, but to extend itself into the cavity of the cranium, so as to occasion an increased projection of the prominence of the os frontis on that side. These circumstances were accompanied with a constant dull heavy pain in the head, which sometimes increased to a great degree of violence, and with a sensation round the eyebrow and temple, which he described as similar to that which he experienced when the foot is said to be asleep. He was much emaciated, and a vast degree of debility was induced on the general system.

The first means employed were a large blister on the head, the internal exhibition of the hydrarg. muriat. and bark, and the external application of electricity and camphorated spirits of wine to the eyelids, and of a drop of the tinctura thebaica to the eye itself when any pain was experienced in the globe. This plan, with the renewal of the blister as frequently as possible, was continued about two months, during which time, though the pain was considerably abated, the disease seemed to gain ground. The tumour in the forehead was larger, and the eye more prominent.

A mercurial course was now adopted, and he rubbed in the ointment for about three weeks, when a violent mercurial inflammation of the eye itself took place, attended with a considerable opacity of the cornea. The bark with the hydr. muriat. was now given, and the rubbing in was entirely omitted. The eye, with proper local treatment, began soon to amend, and entirely recovered. The paralysis disappeared, but the tumours continued much the same. The pain in the head returned sometimes, but in a less degree, and was always removed by the blister. About this period the whole plan was interrupted by his taking cold, and being seized with an inflammation of the bowels, which for some days gave us small hopes of his recovery. When his strength allowed an examination

I was surprised to find the prominence both of the forehead and eye much diminished. The general debility was so much increased as to derange his faculties at times; the bark was again given, but it always purged, and would never agree. Having seen the good effect of *fixed air* in some debilitated constitutions, I recommended his drinking freely of spruce beer. This agreed most completely, and the change in his general health, even in the space of a week, was so great as to afford the most sanguine hopes of his re-establishment.

Another inflammation now attacked the eye itself, attended with an ulcer of the cornea. For this a variety of local remedies were used, and the hydrar. muriat. again. The tumours continued gradually decreasing, the eye perfectly recovered; and by continuing these means for about two months, he quitted England, not only perfectly freed from this disease, but increased in bulk, and in better health, than he had been for years. He has been since to America, and has returned to England; is in perfect health, and has never experienced the slightest relapse whatever.

JOHN WATHEN PHIPPS.

N. B. He continues drinking the spruce beer to this day.

Pall-Mall, Dec. 22, 1795.

II. *Blepharoptosis*, is either retraction, inversion, or elongation of the eyelids, in all which cases the skilful surgeon can give relief.

In all diseases of the eye the young practitioner may consult the works of Maitre-jan, S. Yves, Boerhaave, Heister, Bell, and Wathen; and, should any operation be required, to which he feels himself unequal, he cannot do better than to consult the latter, or his grandson, Wathen Phipps, in London, who have devoted their attention wholly to this subject, and are certainly the first practitioners in Europe.

III. *Hypostaphyle*, falling of the uvula.

This may be attended by *inflammation*, and requires the antipologistic regimen, with cooling and detergent gargles; or it may be caused by relaxation, and call for tonics.

In the first case for a gargle:

℞ Aq. Hord. ℥viij. Mel. Rosac. ℥j. Sal Ammon Crud. ʒj. M. fiat gargarisma:

Barley water seven ounces; honey of roses an ounce; crude sal ammonia a dram. Mix for a gargle.

For an astringent gargle nothing can excel the decoction of oak bark, with honey of roses, and a small quantity of alum:

℞ Cort. Quercin. un. 1. Aq. Font. ℔iss, fiat Decoctio ad ℔j. Cui. adde Mel. Rosac. un. 1. Alum. dr. 1. M. pro gargarismate.

IV. *Paraglosse.*

IV. *Paraglosse.* Under this species we observe four varieties :

a. *Paraglosse deglutatoria*, in which the frænum linguæ being either wanted or destroyed, new born infants swallow the tongue.

b. *Paraglosse glossomegistus*, from extreme enlargement of the tongue, of which the cause may be sought among those that occasion, 1. Pyrexiæ ; 2. Neuroses ; 3. Cachexiæ ; for it may either be inflammation, or the consequence of spasmodic affections, or it may arise from some derangement in the lymphatic system. Enlargement of the tongue from *inflammation* is not uncommon, but from *spasmodic affection* is seldom to be met with. One case I saw in a lady, of a certain age, who was of a relaxed and irritable habit, which returned regularly about the monthly period, after the monthly evacuation ceased. It seemed to arise from the stimulus of the hæmorrhagic effort in the vessels of the uterus, with which the tongue was affected by consent. It was at last relieved by tonics and astringents.

Enlargement of the tongue from derangement of the lymphatic system is too frequently observed when mercurial salivation is carried to excess.

c. *Paraglosse exertoria*, is caused either by *paralytic* affection of the retrahent muscles of the tongue, or by *spasmodic action* of those muscles by which it is protruded.

d. *Paraglosse retractoria* is the inverse of the former, being a violent retraction of the tongue, either by paralytic affection of the protruding muscles or spasmodic action of the retrahent.

V. *Proptoma. Relaxation* of the scrotum, of the under lip, of breasts in females, of the præpuce, or of the ears.

VI. *Exania.* The falling down of the rectum may be occasioned by straining either in childbirth or in efforts to evacuate hardened fæces ; by the long continuance of *diarrhœa* and *dysentery ;* by the operation of violent cathartics, and by either paralysis or division of the levatores ani. These causes give names to as many species

species in Sauvage ; but, independently of these distinctions relative to the causes which occasion this disease, the prolapsus may be either simply inflamed, it may be strangulated, or it may be gangrened.

The indications of cure must have respect both to the condition of the prolapsus and its cause. The part prolapsed must be reduced by hand. Inflammation must be checked by venæsection, or by leeches ; by tepid fomentations, and by antiphlogistics ; and whatever is the occasional cause must be obviated.

VII. *Hysteroptosis. Prolapsus uteri.* Falling down of the womb. This may be occasioned by hard labour, or by ill management in labour, when the ignorant midwife extracts the placenta before the uterus is properly contracted. The surgeon in replacing this viscus must be cautious not to injure it, and should the part be much inflamed, topical bleedings, with the gradual application of cold, by means of linen cloths soaked in water and frequently renewed, must be first recommended.

When the womb bas been reduced, it may be kept in its place by a pessary, and tonics with astringents must be both internally exhibited and topically applied to brace its ligaments. The same may be said of prolapsus vaginæ, which is merely a consequence of relaxation in the cellular substance, by which it is attached to the surrounding parts.

Genus CXXXIV. Luxatio.

A Dislocation or disjointing of a Bone.

This may be discovered by inability to move the joint, when this inability arises neither from fear of pain nor from any known disease, by a change in the external form and position of the part ; by variable and interrupted pain depending on efforts to move, and by tension of the muscles opposed to the luxation.

A dislocation, when not accompanied by rupture of the capsular ligament, can be reduced by manual operation. Strong contraction of the muscles is the only obstacle to the restoration of the joint, and this sometimes is

is so great as to resist all the mechanical powers which can be applied.

M. Ginesta, professor of the college of surgery at Madrid, has however happily discovered a less terrific method, and has proved that opium internally taken, and externally applied in strong fomentations to the contracted muscles, induces such a degree of relaxation as greatly facilitates reduction. In a memoir presented to the infant college, and which will be published, he mentions several cases of long standing restored in this way by him, after having wearied the patience and frustrated the hopes of other practitioners. Fear and terror have produced the same effect; and several instances might be referred to, in which the grim visage of a surgeon, who was known to be rough in his operations, enabled him to do with ease what others, not less skilful, had in vain attempted.

When the head of the dislocated bone has ruptured the capsular ligament, and passed through the opening, the reduction is attended with much greater difficulty, because it is scarcely possible to make the projected bone return by the same channel. This situation of things being discerned by the more limited and impeded motion of the dislocated bone, the skilful surgeon must lay open the parts concerned, and dilate the perforation of the capsular ligament, that he may be enabled to reduce the joint. In this operation the difficulty and danger will arise from the high inflammation of these parts when exposed to the access of atmospheric air. M. Ginesta has devised a new method of performing this operation, which I may perhaps hereafter have an opportunity of communicating to the English student.

When, notwithstanding all the efforts of art, the dislocation cannot be reduced, nature exerts her efforts to relieve herself, and sometimes in the scapula and the ileum forms a new cavity, in which the head of the dislocated bone finds a resting place and firm support. For here, by a law of the animal economy, *pressure* sets the absorbents to work to remove the parts subjected to its action; inflammation follows, with a discharge of ossific matter, and a new

articulation is produced. This, with perfect rest, would form an *anchylosis*, but with proper motion the articulation gains its capsular ligament, and becomes a perfect joint.

Whilst nature is thus forming a new cavity, in which the head of the dislocated bone may move securely, she proceeds to obliterate the former cavity, as no longer useful.

Several joints, thus formed by nature, have been dissected and preserved in spirits by my friend M. Gimbernat, and are now in the museum of the royal college at Madrid.

Class IV. LOCALES.

Order VIII. Dialyses.

Solutions of Continuity.

In this order we have seven genera: 1. Vulnus. 2. Ulcus. 3. Herpes. 4. Tinea. 5. Psora. 6. Fractura. 7. Caries.

Genus CXXXV. Vulnus.

A Wound.

I. Could the divided surfaces of a wound be brought into contact without effusion of blood, the mouths of the corresponding vessels would immediately unite by *inosculation*. But even extravasated blood, if the lips of the wound are brought together, is so far from being an impediment, that it becomes a bond of union; for the superfluous blood and the red particles of the remaining blood being speedily absorbed, the coagulating lymph becomes vascular, so as to contain within itself nerves, arteries, veins, lymphatics, which form a junction with the divided vessels, and renew their communication. In this case the parts are said to *unite by the first intention*.

II. Should however this opportunity be lost, and the mouths of the divided vessels be suffered to contract, they will throw out now no longer blood, but coagulating lymph,

lymph, and the parts being brought into contact, may yet unite by the *adhesive inflammation*, which is the *second mode of union.*

Divided parts may be brought into contact in all cases, excepting the orbicular muscles, such as the lips, either by bandage, or by dry suture, that is, by narrow strips of sticking plaster, which may be placed about a quarter of an inch apart. This will be fully sufficient to effect the union, and, without any other application, will heal the wound by what has been called the first intention: but in fact this includes two operations of nature which are perfectly distinct.

Should a *scab*, for want of perfect union in this way, be formed, it should be suffered to remain, and should be covered with *egg skin*, more especially when near a bone, as for instance on the skin; for this will expedite the union of divided parts, and at worst these can but suppurate at last, as they will inevitably do if the scab is unseasonably removed. Even in some compound fractures this practice is recommended by John Hunter, who judiciously observes, that by permitting the blood to *scab* upon the wound, the blood underneath will become vascular, and the union will be complete, although the parts are not in contact. Even when inflammation is increased by the irritation of the *scab*, and when pus escapes from under its edges, this may be squeezed out, but the *scab* must not be hastily disturbed. Should inflammation be thus increased to a considerable degree, a poultice will relieve it, and quietly bring away the scab.

III. When these operations have been neglected, or where solution of continuity is attended by loss of substance; as in laceration and contusions; *suppurative inflammation* will next take place, and *granulations* will be formed, which is the *third mode of union.*

This more especially will be the process when extraneous bodies, as in *gun shot wounds*, have found a lodgment. In these cases the wound must not be opened either lightly or wantonly; nor under the idea of hunting for the extraneous substance; for the parts themselves will bring these to the surface, and such as cannot be

be thus extracted give little trouble, nor do they prevent the healing of a wound. It is particularly vain to hunt for *balls*, because they take a wayward course, and often find a lodgment where the surgeon would be least inclined to look for them. Even if the ball can be felt, and yet the skin is sound, it will not be prudent to extract it before the original wound is healed, because where it rests it can do no harm, and it is better to have only one wound at a time than two.

When a ball has wounded a cavity, as for example, the abdomen ; if it has passed with little velocity, the parts will in some measure heal by the first intention. If it has passed with such velocity, as to produce a slough, the *adhesive inflammation* will take place on the peritonæum all round the wound, which will prevent the general cavity from taking part in the inflammation, although the ball shall have not only penetrated, but wounded, the epiploon, the mesentery, or other part not immediately essential to life, in its passage through the body ; for whatever solid viscus has been pierced, the surfaces in contact, surrounding every orifice, will unite by the adhesive inflammation, so as to form one continued canal, with which the general cavity has no communication. If any extraneous body has been carried in by the ball ; it will be included in these adhesions, and with the slough will be conducted by one of the orifices to the external surface.

If the ball has wounded the liver or the spleen ; these may soon acquire the healing disposition : if the stomach, intestines, kidneys, ureters, or bladder ; such injuries are generally mortal ; for their contents escape into the cavity of the abdomen, and universal inflammation of the peritonæum takes place, attended by pain and tension, which terminate in death. But if the wound is small and the bowels are not full, adhesions may take place all round the wound, which will confine the matter, and make it go on in its right channel.

When a ball has not penetrated any of the viscera of the abdomen, but only by contusion produced death in a part ; whenever the slough comes away, the matters contained in that viscus will escape, but as the *adhesive inflammation*

inflammation takes place between the surfaces in contact, the new channel will be preserved intire, and cut off the communication between the external air and the cavity of the abdomen. This channel may however in time be closed, and the contents may pass by their accustomed course.

A young gentleman was shot through the body. The balls, three in number, entered on the left side of the navel, and came out behind just above the superior vertebræ of the loins. The first water he made was bloody. In less than a fortnight John Hunter pronounced him out of danger, being persuaded, that whatever cavities the balls had entered, were united by the adhesive inflammation, so as to form one complete canal, and that neither the extraneous matters, carried in with the balls, nor any slough, which might separate from the sides of this canal, nor matter formed in it, could get into the cavity of the abdomen, but must be conducted to the external surface of the body, either through the wounds or from an abscess forming for itself, which would work its own exit somewhere. Soon after this conclusion, some fæces coming through the wound, confirmed him in his opinion respecting the operations of nature to secure the cavity of the abdomen: yet he feared this wound might in future perform the functions of the anus. He saw clearly that an intestine had received a bruise sufficient to kill the part, and that till the separation of the slough had taken place, both the intestine and canal were still complete, and therefore did not communicate with each other; but that when the slough was thrown off, the two were laid into one at this part, and that therefore the contents of the intestine got into this wound. This symptom however gradually decreased by the contraction of this opening, till an entire stop to the passage of the fæces by it, took place, and the wounds were healed.

John Hunter has seen several cases in which patients have recovered after being shot through the lungs, as happened to general Monkton at Quebec; and this he attributes to the inconsiderable hæmorrhage caused by the

the passage of a ball, and therefore to the small quantity of extravasated blood, either in the cavity of the thorax, or the cells of the lungs. He attributes it likewise to the indisposition of gun shot wounds to heal externally by the first intention, on account of the slough, so that extravasated matters have time to escape.

It is curious to observe, that the cavity of the thorax does not so readily fall into the suppurative inflammation from a gun shot wound, as other cavities. This circumstance is the more favourable, because as the lungs collapse, when either wounded themselves, or when a wound is made into the chest, and is not suffered to heal by the first intention, adhesion cannot readily take place.

In case of stabs, more especially by sharp instruments, if only a small quantity of blood is extravasated into the cavity of the chest, the absorbents will take it up. If the quantity is great, it will produce dyspnœa, and terminate in suffocation.

Genus CXXXVI. Ulcus.

An Ulcer discharging Pus or Ichor.

SECTION I.

Of Inflammation and its several Species.

To understand the distinctions needful to be made in ulcers, the student must comprehend those which have been commonly adopted respecting inflammations.

Inflammation may be regarded as one of nature's efforts to relieve herself in cases of external violence or of internal disease.

I have already considered inflammation as being either active or passive, phlegmonic or erysipelatous.

In *phlegmonic*, or, as John Hunter calls it, *adhesive inflammation*, we observe, 1. The action of the vessels much increased, as appears by strong pulsation of the arteries in and near to the part affected. 2. The vessels much distended, and red globules passing into the exhalant arteries, where only the serum and coagulating lymph should go. 3. Considerable increase of size in the part inflamed,

inflamed, proceeding from extravasation of coagulating lymph and serum into the cellular membrane. 4. New vessels formed in this coagulating lymph. 5. Bright redness in the part. 6. Much pain. 7. Considerable increase of heat. 8. When blood is taken from a vein, it has a thick buff crust, considerably cupped, which shews strong powers of coagulation.

All these appearances demonstrate that the system is highly OXYGENATED, and that the vital energy is great. In this species of inflammation the efforts of nature in all her operations are strong, well supported, and, unless excessive, are commonly effectual. These operations are, 1. Ready union by the first intention. 2. Resolution. 3. Suppuration, constantly surrounded by adhesions to prevent diffusion of pus through the cellular membrane into contiguous parts. 4. Granulation. 5. Cicatrization. And throughout the whole of these the constitution is not readily drawn into consent. It attacks the robust, and that most frequently in winter.

In *erysipelatous inflammation* every thing above mentioned is reversed, because, as John Hunter well remarks, the blood of weakly people is weak in its living principle. It is of a darker red, loose in its texture, feeble in its powers of coagulation, and therefore appears to be deficient in its quantity of oxygen. In this species of inflammation the colour is not so bright, the pain is not so great, nor is the heat so much increased, as in the preceding. It is mostly cutaneous, and produces no adhesions; therefore the matter is readily diffused in the cellular membrane, where it propagates the evil. It comes on quickly, but as in all cases of debility, there is disposition to act without vital energy to support that action; so, for want of sufficient power to suppurate and heal, erysipelatous inflammation is disposed to terminate in gangrene. In this species the constitution is apt to sympathize, for it commonly begins with fever, lowness of spirits, and loss of strength. It attacks weakly people, and most frequently in summer.

When vital energy is much diminished, it is scarcely possible to excite inflammation, even by solution of continuity.

tinuity, as may be observed in œdematous habits. John Hunter has seen the wound after tapping admit water to pass through it from the abdomen for several weeks, without being itself inflamed, or attended by the peritoneal inflammation. The same indisposition to inflame may be frequently observed in scarifications when the habit is dropsical, for they continue open. He judiciously remarks, that in extreme debility this total want of inflammation is salutary, for in dropsical cases, when the parts have power to inflame, but not sufficient to go through the different stages of the inflammation; this generally produces a total loss of vital power, and the short lived effort terminates in gangrene.

SECTION II.

Of Suppuration.

When the *adhesive inflammation* is not capable of resolution, *suppuration* follows, and the inflammatory action ceases. The extreme arteries then secrete a peculiar fluid, which in a healthy state takes the name of *pus*, blended at first with much coagulating lymph, which forms the granulations. But when the vessels are diseased; when they are weak, relaxed, and destitute of vital energy, unable to form pus, they pour forth serum and such fluids as contain either no coagulating lymph, or at least not sufficient to produce good granulations.

No suppuration can take place unless it is preceded by inflammation, for what is otherwise produced is not true *pus;* yet no perfect suppuration follows till inflammation ceases, for as one recedes, the other gradually advances.

The quality of pus depends wholly on the tone and structure of the parts by which it is produced, and whatever specific qualities the parts possess the *pus* receives. Hence syphilitic ulcers produce syphilitic matter, and cancers the cancerous matter. The same precisely may be said of small pox, &c.

When the structure of the parts is so far changed as to emit blood, which mixes with the *pus*, the whole discharge becomes putrid and offensive, but *perfect pus* will continue unchanged,

unchanged, sweetish to the taste, and void of smell, for weeks together, as in well conditioned ulcers we have frequently occasion to observe. In this situation it shews no disposition to form new combinations. But the discharge from ill conditioned ulcers is such a powerful solvent, that it speedily decomposes animal substances, and corrodes both lead and silver; an effect this, which is attributed by Dr. Crawford to its hepatic air, or sulphurated hydrogen, as I shall explain when I proceed to distinguish ulcers by their specific characters.

SECTION III.

Of Ulceration.

ULCERATION is a process conducted wholly by the *absorbents*, of whose importance in the animal economy I have fully treated in my introduction to the *cachexiæ*. When it is needful, they remove whole parts; but for this purpose their action must be excited by some *stimulus*: for all other modes of destruction are either mechanical or chemical. Indeed this stimulus may be itself either mechanical or chemical, as when a dead part *presses* upon a living part, or when either secreted fluids or foreign substances, applied to any part of the body, disturb the balance of affinities, and unite with its component principles to form new combinations, which effect is distinctly to be observed in caustics. But the most common stimulus arises from disease, when the organic structure of a part is injured or destroyed.

Pressure from without, if slight, produces thickening; if strong, promotes absorption; but it is curious to remark, that pressure from within creates absorption only in that part which is nearest to the external surface of the body. And it is still more curious to observe, that *adhesive inflammation* attends the progress of ulceration to prevent the escape of pus into the cellular membrane.

The absorbents first remove those surfaces which are immediately contiguous to the irritating cause, but the ulcerative process has no power to destroy the cuticle unless by mechanical pressure of distention.

Newly formed parts are much more susceptible of ulceration than the original. Hence it is that ulcers after being healed frequently break out afresh, and that calluses are readily absorbed.

Absorption may be conducted either with suppuration or without, as I have had already occasion to remark, and it is on the former of these operations that depend sloughing and exfoliation.

The ulcerating sore is made up of little cavities, and the edge of the skin is notched, thin, turned a little out and overhangs: but when the ulceration stops, the edge becomes regular, smooth, a little rounded or turned in, and of a purple colour covered with a semitransparent white. Nature then proceeds to *granulation*, that, having cleared away whatever was either useless or offensive, she may speedily repair such losses as have been occasioned by disease. It is thus that spiders, when they have devoured their prey, and cast out the useless because indigestible residuum, hasten to renew the injured portions of their web.

SECTION IV.

Of Granulation.

GRANULATIONS are formed by an exudation of the coagulating lymph from the vessels; and in this substance new vessels originate in remarkable abundance. Of this there can be no doubt since the observations of John Hunter, who took notice, that the white substance, exactly similar in appearance to coagulating lymph, which he left one day on the surface of a sore, was become the next extremely vascular. The surface of granulations has the same dispositions, and pours forth the same kind of pus as the parts from which they are derived.

The colour of healthy granulations is a deep florid red, precisely like that of *well oxygenated blood;* but when they are of a livid red, they are unhealthy, and shew a languid circulation. When they are healthy they arise on flat surfaces, till they are nearly level with the skin, but when they exceed this, they are unhealthy, soft, spongy,

spongy, and have no disposition to skin. This condition of disease or health depends on the healthy or diseased condition of the *pus*, which, as I have noticed, depends wholly on the tone and structure of the vessels by which it is produced.

When a sore is disposed to heal, the *granulations* contract, and being assisted in this operation by a contractile power in the surrounding edge of the cicatrizing skin, draw the mouth of the wound together. Should nature stand in need of art to restrain the luxuriancy of granulation, and make them adhere strongly to each other, bandages may be applied. These should not merely press upon the part, but should, if need be, embrace the limb. Dr. Darwin has judiciously remarked, that nothing so much contributes to increase absorption, for this pressure doubles the power of the arterial pulsations in promoting the ascending current of the fluid in the valvular lymphatics, and absorption prevents the increase of *proud flesh*.

In old sores of the depending extremities this caution is the more important, because the capillary arteries, having by protracted irritation lost their tone, pour forth not coagulating lymph, but serum, and the limb becomes œdematous.

SECTION V.

Of the General and Special Management of Ulcers.

From what has been delivered, it will appear, that to procure good granulations, it will be absolutely needful to establish healthy action in the solids, because, as we have seen, the nature of both suppuration and granulation depends on the state of the secretory arteries of the part inflamed. Want of action in them occasions slow circulation and ichorous pus, with black and perishable granulations. Increased action, on the contrary, quickens circulation, and produces laudable pus with healthy granulations.

To promote this healthy action when defective, it is required, that we should invigorate the system by bark and

and steel, assisted in their operation by the inspiration of well *oxygenated air*, the effects of which have been particularly seen in the case of Mr. Atwood, reported by Dr. Thornton and published by Dr. Beddoes. Topical applications however are not to be neglected, to excite the languid vessels. For this purpose the metallic oxyds, particularly that of mercury, has been hitherto our chief dependance; but I shall have occasion to shew, in a case to be related, that nothing hitherto discovered, not excepting the flowers of zink, lately and most justly recommended, can for this purpose have higher claim to our attention than the *oxalis acetosella*.

When vital energy is either naturally lost, as happens in leucophlegmatic and dropsical habits, or has been exhausted by excitement, as in violence of inflammation; that is, in the language of the Brunonian school, when extreme debility, direct or indirect, prevails in any part, that part will die. Hence it is, that in either of these cases ulcers put on a putrid appearance, and are disposed to gangrene.

This effect may be discovered by fœtor, an offensive smell, by loss of sensation, by flacidity, and by blackness, succeeding either to whiteness or to florid redness in the part; all which together indicate deficiency of *oxygen*, as the vital principle, and of *carbon*, as the bond of union between the several elements of which animal substances consist.

It is in such circumstances that bark, steel, wine, and opium, must be freely given, and that highly *oxygenated air* must be inspired. At the same time the *oatmeal poultice*, with a large portion of charcoal in fine powder, as practised by Mr. Sandford of Worcester, and communicated by Dr. Beddoes, will have the most benign effect. This produces good pus and healthy granulations in ulcers, which had been foul and putrid. The cases reported by this gentleman are highly interesting, and our obligations to Dr. Beddoes, for bringing forward such a mass of information as we meet with in all his publications on the medical use of *factitious airs*, can never be sufficiently acknowledged.

Should

Should the inflammation run too high, the subsequent poultice will be useful.

℞ Farin. Aven. M. iij. Ol. Oliv. Acet. Acerrimi. q. s. M. f. Cataplasma frigidum.

Take three handfuls of oatmeal, olive oil and vinegar, of each sufficient to make a poultice; to be applied cold.

The meal of linseed is excellent in emollient poultices.

When sores are slow in healing, particular attention must be paid to the organs of digestion, and to the whole of the alimentary canal, for it will be sometimes necessary not merely to brace the animated fibre by bark and steel, but cleanse the first passages, and particularly with calomel, which in doses of a grain or two every night promotes action in the absorbent system, and prevents the generation of proud flesh.

When the sore proceeds to cicatrize, no dressing is preferable to white diachylon spread on lint.

FISTULOUS ULCERS require the knife.

CANCEROUS ULCERS are distinguished by their extreme sensibility, and the acuteness of pain by which they are attended, by having their borders turned outwards, and by their *ichorous* discharge.

Ichorous pus is considered by Jacquin to be the residuum of benign pus, which by putrid fermentation has discharged ammonia. This substantially agrees with an observation of Dr. Crawford, who has demonstrated, that the purulent discharge of *cancers* contains ammonia and sulphurated hydrogen.

We have seen that the quality of *pus* depends wholly on the tone and structure of the parts by which it is produced; but when the tone and structure of these parts are affected by the pus, whether as immediately produced by them, or as changed by new combinations, which rapidly take place when the natural balance of affinities has been once destroyed.

Animal substances, as we have seen, consist principally of hydrogen, carbon, azot, with a small proportion of sulphur and some oxygen, all which, in favourable circumstances, tend to form separate combinations. For this purpose they must be exposed to heat, humidity, and atmospheric air. When frozen they remain unchanged for

for want of caloric. When surrounded by hot air, all their moisture is evaporated, and no decomposition is afterwards effected. In a vacuum they are unalterable. But when subjected to the action of air and water, in the common temperature of our atmosphere, their oxygen escapes united with carbon, in the form of carbonic acid air, whilst their azot and sulphur each combines with hydrogen to form ammonia and sulphurated hydrogen. In this case the residuum is a concrete oil, resembling *spermaceti*, which is composed of carbon and hydrogen. If any of the oxygen combines with hydrogen, it must compose water; but if the water itself is decomposed, then its oxygen must unite both with carbon to increase the quantity of carbonic acid air, and with part of the azot to make nitric acid, whilst its hydrogen, with another portion of azot, forms ammonia.

When animal substances are confined in either vital or azotic air, they are quickly decomposed, the putrid fermentation soon begins, and forms in the first carbonic acid air and water, in the latter ammonia; but in both cases we have sulphurated hydrogen. If, instead of taking either azot or oxygen separately combined with caloric, or both together, as we find them blended in atmospheric air, we unite them chemically, as in nitric acid, and subject the animal fibre to the action of this acid; we shall have a rapid decomposition, and azot with prussic acid will be edmitted in abundance, which latter, as Jacquin demonstrates, is azot, hydrogen, carbon, and combined with a small portion of oxygen.

But if the animal substance is inclosed in either hydrogen gas or in carbonic acid air, no decomposition, nor consequently any new combination, can take place.

It is upon this principle that in cancerous ulcers Dr. Ewart has been so successful in delivering his patients from the most distressing part of the disease, that is, the pain and the offensive smell, both which are prevented by the constant application of carbonic acid air. If any one doubts of this effect, let him put a blister on his finger, and, when the cuticle has been removed, let him expose the finger first in a vessel inverted and filled with vital

vital air, then in a vessel filled with carbonic acid air, and he will have sufficient conviction of this truth. To obtain the former, green leaves may be exposed to the sun in glass jars, filled with water and inverted. The latter may be readily collected by a syringe from the surface of fermenting liquors.

In *cancerous ulcers* the azot seems to be the most deleterious part of atmospheric air, for the oxygen excites inflammation, produces vigorous action for a time in the capillary arteries, which secrete the *pus*, and gives the coagulating lymph a disposition to form good granulations. It seems to be *carbon*, which in all cases gives firmness and cohesion to both animal and vegetable fibres, to the bones, and even to the particles of calcareous earth in limestone, this therefore has a tendency to unite the granulations.

But alas! unless the *virus* is itself destroyed, and the whole system is invigorated, the ulcer may approach towards cicatrization, but it will become again ill conditioned, and all our labour will be lost.

SCROPHULOUS ULCERS are produced, chiefly in the lymphatic glands, by weak and relaxed vessels, which have lost their tone, and therefore have not vital energy sufficient to produce inflammation, without which, as we have seen, there can be neither *suppuration* nor *granulation*. They are distinguished by their obstinacy, by their ichorous discharge, and by having their edges irregular, smooth, and flat.

From what I have said generally on inflammation and ulceration it will be clear, that to heal *scrophulous ulcers* we must restore vital energy to the vessels of the part affected. This may be accomplished either by topical applications or by invigorating the system; but, for the reasons assigned in my observations on Mr. Atwood's case, published by Dr. Beddoes, were we confined to one of these, I should prefer the *latter*. When united, few scrophulous ulcers, I blieve, can resist their efficacy.

For external application we may use the red metallic oxyds, particularly the mercurial, but to excite energetic action, no application can surpass poultices of wood sor-

rel

rel *(oxalis acetosella)* as mentioned by Dr. Beddoes in his considerations on the medical use of factitious air. Since that publication I have had an opportunity of using it in two ill conditioned ulcers with excellent effect, for both of them in three days, instead of sanies and ichor, discharged good pus. The sorrel leaves were simply bruised, and at the end of four days were succeeded by poultices made with the roots of *meadow sweet (spiræa ulmaria)* mixed with the sour head of butter milk. In six weeks these applications perfected a cure in a very obstinate and foul ulcer of a finger, in which the bones themselves had been diseased. The other case is so remarkable, that I shall give the minutes of it as drawn up by a young surgeon, from Madrid, who was on a visit at my house, and attended with me from the beginning.

A boy, aged 18, of a scrophulous habit with tumid glands, had his face and neck covered with ulcers, and had lost a considerable portion of his upper lip, both lips being ulcerated. October 22d, when he applied for my assistance, we observed, that these ulcers were pale, soft in their surfaces, and covered with a thin ichorous pus, which was exceedingly fœtid and offensive.

Want of food, of fuel, and of clothes, with the absorption of this purulent discharge from numerous ulcers, had reduced him to almost the last stage of *tabes*. His pulse was weak, small, and frequent; he was emaciated, his strength was exceedingly reduced, he was very costive, and was in such distress of pain that he seldom slept by night.

We immediately applied the bruised leaves of *oxalis* to all his ulcers, which occasioned much distress. The next day, when we renewed the poultice, we found him in much pain, but the pus was thicker and less offensive. He had scarcely slept.

October 24. The oxalis poultice was renewed. Less pain. The ulcers look of a more florid red; some granulations begin to rise, the pus is increased in quantity, is thick, and has resumed a yellowish hue; he breathes more freely, and sleeps well, but his pulse is very weak.

October 26. Many new granulations, firm and red. Pus yellowish, very abundant and thick; all the vessels on the surface of the ulcers appeared to have acquired strong and healthy action. This day we discontinued the oxalis, and in its place we substituted the spiræa poultice. Finding him costive, I gave him three grains of calomel at night; and as the pulse continued weak in the extreme, he was ordered to take three times a day, a wine glass full of infusion of oak bark, with marrubium and ginger.

℞ Cort. Quercin. un. 1. Fol. Marub. dr. 4. Zinzib. dr. 2. Aq. Font. bul. ℔. 2. M. f. infus. c. c. un. 3. ter in die.

October

October 28. Less pain. Sleeps well. Spirits better. Appetite good. Granulations large and healthy, filling up every where to the surface of the ulcers. Suppuration of the best quality. Pulse weak and frequent. Continued the poultices of spiræa. Let him have animal food and a glass of wine every day.

October 31. No pain. Little inflammation. Granulations uniting every where. Two large ulcers healed. Costive. Let him have three grains of calomel at night.

November 9. He has continued the spiræa poultice and the oak bark. Two more considerable ulcers have been healed for some days. The lip is healing fast, and the nose looks well, but the suppuration is not abundant. His body and mind acquire strengh.

November 25. The lip has been healed these twelve days, but the parotid glands continue swelled, and fresh ulcers are breaking out behind his ears and in the back part of his head. Continue the spiræa poultices.

November 28. The ulcer on his upper lip has broke out again; that on the nose increases, and others appear about his head. Let him take two grains of calomel twice a week. Renew the poultices of *oxalis* on all his ulcers.

November 30. The oxalis has excited a good and copious suppuration. All the ulcers have acquired a healthy appearance.

December 2. Ulcer of the lip is covered with good granulations, those of the nose and ear have suppurated well, and all which had broke out behind the head are healing.

December 5. The lip and nose, although covered with granulations, do not yet seem disposed to cicatrize, but the ulcers behind the head are healed.

December 6. Better in all respects. The nose is the only part which does not seem yet disposed to heal.

At this time I left Pewsey.

OBSERVATIONS ON THIS CASE.

We here beyond a doubt discover, that the *oxalis* excites energetic action in the vessels, and brings on that inflammatory disposition in the ulcer, which is essential to the formation of good pus and of healthy granulations; for on the second day after its application the ichorous suppurations ceased, the surface of the ulcers assumed a florid red, and on the third day every character of scrophulous ulceration vanished.

This high degree of excitement continued for a time after the oxalis was changed for the spiræa, and having ceased, its was renewed and healthy pus produced, when we returned to it again.

May we not conclude from hence, that the *oxalis*, as a specific stimulant of vital action in the secreting vessels, should only be discontinued when inflammation runs too high, and be again repeated when this falls below the degree which is required to produce a good and abundant suppuration, charged with coagulating lymph, and disposed to form healthy granulations.

It must be remarked, that in this case my chief attention was directed towards the *oxalis ;* but when I have him under my care again, I shall make him regularly take his oak bark infusion and calomel, both which he neglected ; I shall give him extract of cicuta, and by paying more particular attention to his general habit, which is infected with *scrophula* to a degree I have never met with before, I have little doubt but that I shall effect a cure.

Syphilitic ulcers are of two sorts, the one produced by the external application of the venereal virus ; the other by absorption, which excites inflammation. Syphilitic ulcers are distinguished by their paleness and peculiar hardness, by their being free from pain themselves, but attended by pain in the bones, and by other concomitant symptoms of syphilitic affection. Their cure by mercurial ointment is speedy and infallible.

Scorbutic ulcers are very fœtid, foul, and apt to bleed. The blood is putrid. The bottom of the ulcers soft and spongy, the margin swelled and livid. The neighbouring parts are œdematous and painful. A fungus, resembling liver, is constantly sprouting up as often as it is destroyed either by the knife, or by a caustic ; but, whenever cut, threatens a dangerous hæmorrhage : they are obstinate, yet have no disposition to affect the bones.

In these, mercurials are highly injurious : whilst fresh vegetables and ripe fruits, with the juice of oranges and lemons, expedite a cure.

Genus CXXXVII. Herpes.

Tetters.

An assemblage of little ulcers, itching much, and not inclined to heal, but terminating in surfuraceous scales.

I have already mentioned *herpetic eruptions* under leprosy, where they appear as a constitutional affection. But the best authors seem inclined to rank them with local diseases, and to consider them merely as *cutaneous* ulcers, wholly independent of the constitution. The observations of Dr. Garnett upon this subject are highly interesting. With Mr. Bell, he distinguishes four varieties, all taken from Sauvage.

1. *Herpes farinosus*, or *Tetters*. 2. Herpes pustulosus, or *scald head*. 3. Hepes miliaris, or *ring worm*. 4. Herpes exedens, or *shingles*.

The second variety will be separately noticed under *tinea*, which Cullen has taken for a genus, although he might perhaps with propriety have left it as a species of herpes. The others, though specifically distinguished, admit one general mode of treatment for them all.

The persons most subject to *herpetic eruptions* are the young, the healthy, the plethoric, who either feed highly or drink hard. They attack chiefly those parts of the body which are exposed to the alternations of heat and cold, and are much affected by weather. Hence they appear to be inflammatory: and this idea is confirmed by a consideration of the means most effectual for their cure.

These, as we have already seen, from the communications of Dr. C. Smith, are dulcified spirit of vitriol, (sp. ætheris vitriolici) in such doses as gently to evacuate the bowels, and diluted vitriolic acid to the quantity of six drams three times a day, which prove diuretic and cathartic. My friend Dr. Haygarth cures with nitre.

Sir John Pringle depended chiefly on the following prescriptions, the first of which is essentially the same with *Velno's Vegetable Syrup*.

℞ Sarsæ un. 3. Aq. Font. ℔. 4. Macera per noctem. Coq. leni igne, vase clauso ad colat. ℔. 2. Cap. ℔. ss. ter die.

To this if we add senna, cherville, and white rose leaves, with carraway seeds, of each two drams, and boil till we have reduced to one pint, then adding honey, we have the vegetable syrup, of which the dose is four spoonfuls morning and evening.

℞ Cort. intern. ulmi. recent. un. 2. Nitri dr. 1½. Coccinel. gr. 12. Coque ex. Aq. pur. ℔. 2. ad. ℔. 1. Adde Sach. alb. un. 1. Cap. ℔. ss. bis die.

℞ Summit.

℞ Summit. Junip. un. 3. Coq. ex. Aq. Font. ℔. 3. ad ℔. 2. Addendo sub. finem Coctionis Bac. Junip. un. 1. Colat adde Aq. Nucis Moschat. un. 1. M. Cap. ter die, un. 1. Addendo Vin. Antimon. gtt. 10.

℞ Gum Guaiac. Amygd. dulc. āā. gr. 6. Simul terantur dein adde Antimonii Crud. pp. gr. 10. Cinnab. Antim. pp. gr. 12. Cons. Cynosbat, & Syr. q. s. ut fiat Bol. omni nocte sumend.

Plummer's Pill, which is thus prepared.

℞ Sulph. Aurat. Antimon. gr. 4. Calomel. gr. 2. Conserv. Cynosbat. q. s. f. Pill. No. 2. c. Pill. j. o. n. h. s.

Dr. Huxham united his antimony and mercury in this form.

℞ Hydrarg. Unc. ½. Antim. Crud. p. p. dr. 3. Flor. Sulph. dr. 2. terantur ad perfect. glob. Extinct. Cap. scr. 2. bis die.

These cleanse the alimentary canal; and such is the consent between the internal and external surfaces, that whatever operates on the one must affect the other.

Harrowgate water has the same effect, and all these unite in one intention, which is to cool the system and to abate inflammation.

By the analysis of Dr. Garnett it appears, that a wine gallon of this water contains muriat of soda (common sea salt) 615 grains, muriat of magnesia 91 grains, muriat of lime 13 grains, carbonat of lime 18 grains, carbonat of magnesia 5 grains, sulphat of magnesia (Epsom salt) 10 grains, carbonic acid air 8 cubic inches, azot 7, sulphurated hydrogen 19. We cannot therefore wonder that it proves cathartic, and as such, that it should diminish cutaneous inflammation, and thereby prevent ulceration. But the most interesting fact related by Dr. Garnett is, that common water impregnated with sulphurated hydrogen produces powerful effects in some herpetic cases, in which the Harrowgate water had formerly been used with good success.

This he accounts for in a manner which appears to be consistent with modern chemical discoveries.

He supposes, that in herpetic complaints there is a superabundance of oxygen in the blood: and it is now well known, that both liver of sulphur and sulphurated hydrogen, introduced into the system, and uniting with this substance, which is the principle both of vital energy and of inflammation, forms common water.

Sulphurated

Sulphurated hydrogen is obtained by dissolving hepar sulphuris in water; for thus a most curious decomposition is effected, whilst the sulphur and the alkali combined, accomplish what neither of them alone could do, for they take the oxygen of the water and form a vitriolic salt. The hydrogen of the water, at the same time uniting with the remainder of the sulphur, escapes as *hepatic air*, that is, *sulphurated hydrogen*.

According to Jacquin, 100 cubic inches of common water will absorb 60 cubic inches of this air; but if the quantity is increased beyond this proportion, it is decomposed by the oxygen of the atmospheric air, water is formed, and sulphur is precipitated.

The same practice as in herpes is recommended in the *gutta rosea*, or red blotches of inebriates, and in both, the topical application of unguentum citrinum, to promote digestion, will be useful.

Young practitioners must learn to distinguish syphilitic eruption, appearing near the roots of the hair, from herpes. Sauvage indeed makes this a species, which he calls *herpes syphiliticus*, and therefore recommends mercurials.

Genus CXXXVIII. Tinea.

A Scald Head.

Small Ulcers at the root of the hairs, which produce a friable white crust.

It is principally the disease of infants and of children, who have a relaxed habit, are ill fed, or gorged with food, and whose nurses neglect to keep them clean.

These ulcers, for want of being cleansed, become extremely foul, and as the hair cannot be combed, vermin increase to such a degree, as to stimulate the part, and cause a determination to the head; the miserable sufferer, deprived of sleep, becomes pale and atrophic; and, if the disorder is neglected, it terminates in hectic.

To effect a cure, it will be needful to cut the hair very short, or even by a pitch plaster to tear them up by the roots.

roots. The head must then be cleansed with warm water and soap, or with cream and honey, after which the ulcers may be washed with a solution of corrosive sublimate, in the proportion of ten grains to a pint of water. But from what I have had occasion to observe in the use of wood sorrel for scrophulous ulcers, I shall try it on the next scald head I meet with, after which I shall apply the charcoal poultice, with little doubt of speedily and safely perfecting a cure.

Should the student be more inclined to follow the practice of Sir John Pringle, he may use this cerate.

℞ Emplast. de Minio. Uung. resinæ flav. āā. p. æ. Liquescant simul et hujus portio crasse extendatur super lint, admoveatur capiti et bis die renovetur.

Or he may anoint with Norway pitch and sulphur every night. Or he may wash with a strong infusion of tansey, wormwood, and southernwood in soap leys.

The student must be cautious not to dry up these ulcers by astringent applications, before they have been properly digested, lest he should thereby bring on more dangerous diseases, either of the inflammatory or spasmodic orders. And should he be consulted, after such effects have been thus produced, he must without loss of time apply a plaster sprinkled with cantharides to the head.

In Edinburgh, some practitioners are in the habit of giving hemlock *(conium maculatum)* internally, with good success. They begin with small doses, and increase gradually till they produce vertigo: then omit the medicine for a few days, and after that resume it.

Sauvage has distinguished nine species of tinea, among which we find *tinea syphilitica;* but excepting this and his *tinea humida*, when it is symptomatic of either *scrophula* or *syphilis*, they all require to be treated in the manner I have above described.

When tinea proceeds from either venereal affection or from scrophula, attention must be paid to the primary disease.

Genus

Genus CXXXIX. Psora.

The Itch.

Small pustules with watery heads, appearing first on the wrists and between the fingers. It is contagious.

This filthy, this infectious disease, caused by the little insect which Linnæus has denominated *acarus exulcerans*, is readily cured by mercurial ointment, by sulphur, and by the vitriolic acid. In the country, we frequently apply a quicksilver girdle without the least apprehension of any evil consequence, or in case of timidity in the patient, we cause him to be anointed with brimstone and hog's lard.

In cities, where the smell of sulphur would disgust, it is more expedient to adopt the following elegant and efficacious remedy.

℞ Acid. Vitriol. gtt. 10. Aq. Rosæ gtt. 20. Axung. Porcin. ℥j. Essent. Citri. gtt. 15. M. f. Liniment. m. et v. utend.

Hog's lard one ounce; vitriolic acid ten drops; rose water twenty drops; essence of lemon fifteen drops. Make an ointment to be used morning and evening.

The patient may likewise wash two or three times a day with elder flower water, acidulated with vitriolic acid.

This plan of cure by vitriolic acid may be forwarded by an electuary of nitre one dram with six drams of sulphur mixed up in honey, of which the patient may take the size of a nutmeg three times a day. My judicious and kind friend Dr. Nankivell has indulged me with the subsequent, which I have seen used with remarkable success.

℞ Pulv. Hellebor. alb. ℥ss. Sach. Saturn. ℥j. Coq. ex Aq. q. s. ad Colaturæ ℔ ss. M. f. Lotio. M. & v. usurpanda.

℞ Elect. e. Senna Æthiop. Mineral. āā ℥j. Antim. Crud. lævig. ℥ij. Pulv. Cremor. Tart. ℥vj. Pulv. Jalap. ℥j. Syr. q. s. M f. Elect. c. c. M. N. M. ter in die.

That is, take powder of white Hellebore half an ounce; sugar of lead one dram; boil in water so as to strain off half a pint for a wash to be used morning and evening.

Take electuary of senna and Æthiop's mineral of each one ounce. Crude antimony two drams; cream of tartar six drams; jalap one dram; syrup sufficient to make an electuary. The dose is the size of a nutmeg three times a day.

Taking a hint from this practice, I intend using a wash

wash with ointment, infusion of bear's foot, that is, helleborus fœtidus.

Bathing in *Harrowgate water* very speedily effects a cure.

Genus CXL. Fractura.

The Fracture of Bones.

In cases of fracture, the bone must be restored to its proper direction, the extremities must be in contact, the limb must be perfectly at rest, and the degree of inflammation must be regulated.

When these precautions have been neglected, it sometimes happens, that a preternatural joint is formed. The extremities of the fractured bone become rounded, smooth, and covered with a cartilage, a membranous substance embraces them all round, and, like a capsular ligament, both limits their motion and keeps them in their place.

But unfortunately, for want of proper muscles, this newacquisition is not only unprofitable, but a great incumbrance, for the limb itself is thereby rendered useless.

To remedy this evil the joint must be opened, the new capsular ligament must be destroyed, the cartilaginous terminations must be cut off, the extremities of the bone must be in contact with each other, and by rest their union must be suffered to take place.

Genus CXLI. Caries.

The Exulceration of Bones.

Caries begins with a separation of the periosteum, attended by whiteness and semitransparency of the bone, which soon turns black, and emits a most offensive smell. Caries is divided into dry and humid, the former slow in its progress, the latter rapid, and attended both by a fœtid discharge, and by considerable pain. Incipient caries, properly speaking, is *necrosis*, and in its progress we have *exfoliation*, followed by *exostoses ;* but the term *necrosis* is commonly confined to the mortification

tion of a cylindrical bone, which is attended by the production of a new bone inclosing the old one, now dead. The flat bones, owing to their peculiar structure, are subject only to exfoliation as the consequence of caries. In fact, the only bone of the head liable to renovation is the lower jaw, and this, it must be observed, has some analogy to the cylindrical bones.

Of this a curious instance occurred in Edinburgh, in which the teeth remained, and were properly supported in their places by the new jaw.

The common symptoms in necrosis are :

1. Deep shooting pain referred to the inside of the bone, which gradually increases in its intensity, and is not affected by pressure.

2. Tumour in the direction of the bone without change of colour.

3. Small ulcers discharging fœtid pus.

4. Slow fever, and frequent rigors.

These symptoms demonstrate the presence of inflammation followed by gangrene.

Caries and necrosis, according to Sauvage, may be divided into, 1. Pure. 2. Rachitic. 3. Scrophulous. 4. Cancerous. 5. Scorbutic. 6. Syphilitic. 7. Variolous. But of these the most common, it is conceived, is the syphilitic, on account of its specific action on the bones.

It has been imagined, that mortification of the bones is occasioned always by inflammation of the periosteum ; but recent experiments and observations have demonstrated, that the periosteum may be inflamed, and in part destroyed, without producing *necrosis* in the bones, and that necrosis has been far advanced without any morbid affection of the periosteum. On the other hand, it has been proved, that when the spinal marrow has been destroyed, necrosis in the bone has been universally the consequence.

May we not therefore look for the cause of *necrosis* in the medullary texture, which, as it abounds with arteries, must be liable to inflammation ?

When vitality is destroyed in any portion of a bone,

it becomes a stimulus, like any extraneous body, to the living fibre, excites the absorbents to make a separation between the living and the dead, whilst the exhalant arteries convey ossific matter to repair the injury thus occasioned by disease.

Nature then proceeds to get rid of this incumbrance; for as the dead bone stimulates the new production, ulcerative inflammation with suppuration follows, fistulous openings in the new bone are formed, and the dead portions, if not extracted, are dissolved by the pus and floated off. But as hectic is sometimes consequent on necrosis, when nature is not assisted by art, therefore the surgeon with his bistory, trepan, and chissel, should cut through the new bone, divide the old one, and extract the fragments. Nature then, hastening to repair the damages sustained, fills up the vacuities with new bone, and in this, as in all her efforts to relieve herself, calls upon us to admire and adore the infinite wisdom, benevolence, and power, of the great JEHOVAH.

A

NOSOLOGICAL SYNOPSIS.

ADAPTED TO THIS WORK.

CLASSES.

I. Pyrexiæ. After a cold shivering, a frequency of pulse, with increase of heat and thirst.

II. Neuroses. Affections of sense and motion, disturbed ;—without either idiopathic pyrexia, or topical disease.

III. Cachexiæ. A depraved habit of body ;—without pyrexia, and independent of neurosis, as original diseases.

IV. Locales. Morbid affections, which are partial.

ORDERS.

Class I. Pyrexiæ.

I. *Febres.* Pyrexia with loss of appetite and diminution of strength, without primary local affection.

II. *Phlegmasiæ.* Pyrexia with topical pain and inflammation.

III. *Exanthemata.* Contagious diseases, beginning with fever, and followed by an eruption on the skin.

IV. *Hæmorrhagiæ.* Pyrexia, with a discharge of blood, without any external injury.

Class II. Neurosis.

I. *Comata.* A diminution of the powers of voluntary motion, with sleep, or the senses impaired.

II. *Adynamiæ.* A diminution of the involuntary motions, of either vital or natural functions.

III. *Spasmi.*

III. *Spasmi.* A morbid contraction, or motion of muscular fibres.

IV. *Vesaniæ.* The judgment impaired, without either coma, or pyrexia.

Class III. Cachexiæ.

I. *Marcores.* Universal emaciation.

II. *Intumescentiæ.* General swellings.

III. *Impetigines.* Cachexia, deforming the external parts of the body, with tumours, eruptions, &c.

Class IV. Locales.

I. *Dysæsthesiæ.* The senses injured, or destroyed by the imperfection of the organs.

II. *Dysorexia.* The appetite deficient, or depraved.

III. *Dyscinesiæ.* Motion impeded, or depraved, from an imperfection of the organ.

IV. *Apocenoses.* A superabundant flux of blood, or humours, without pyrexia.

V. *Epischeses.* A suppression of excretions.

VI. *Tumores.* Partial swellings, without inflammation.

VII. *Ectopia.* Parts displaced.

VIII. *Dialyses.* A solution of continuity.

GENERA,

AND THEIR SYMPTOMS.

Class I. Pyrexiæ. Order I. Febres.

1. *Intermittens.* Cold, hot, and sweating stages, in succession, attend each psroxysm, and are followed by an intermission, or remission.

2. *Continua.* No intermission, yet subject to exacerbations twice in one day.

Species.

1. *Synocha.* Heat increased; pulse frequent, strong, hard; urine, high coloured; senses not much impaired.
2. *Typhus.* Contagious. Heat moderate; pulse quick, weak, small; senses much impaired, prostration of strength.
3. *Hectica.* Exacerbations at noon, but chiefly in the evening, with slight remissions in the morning, after nocturnal sweats; the urine depositing a surfuraceo-lateritious sediment; appetite good; thirst moderate.

Class I. Pyrexiæ. Order II. Phlegmasiæ.

4. *Phlogosis.* Redness; heat; pain; and tumour on the surface of the body.

Species.

1. *Phlegmone.* Inflammation of a bright red colour; tumour pointed, throbbing, and tending to suppuration.
2. *Erythema.* Inflammation of a dull red colour, vanishing upon pressure, spreading unequally, with a burning pain, and tumour scarcely perceptible, ending in desquamation, or vesicles of the scarf-skin.

5. *Ophthalmia.* Redness and pain of the eye; intolerance of light; with effusion of tears.

Species.

1. *Ophthalmia Membranarum.* Inflammation in the coats of the eye, most commonly in the tunica conjunctiva.
2. *Ophthalmia Tarsi.* Small ulcers in the sebaceous glands of the tarsus, discharging a glutinous matter.

6. *Phrenitis.* Strong fever; violent head ach; redness of face and eyes; impatience of light and noise; watchfulness; and furious delirium.

7. *Cynanche.*

7. *Cynanche.* Pain, and redness of the fauces; deglutition, and respiration, difficult.

8. *Catarrhus.* Increased excretion of mucus from the membrane of the nose, fauces and bronchiæ, with pyrexia, attended by cough, thirst, lassitude, increased sensibility to cold, and want of appetite.

9. *Pneumonia.* Pyrexia; difficult respiration; cough; and pain in the thorax.

10. *Carditis.* Pyrexia; pain in the region of the heart; anxiety; difficult breathing; cough; irregular pulse; palpitation; fainting.

11. *Gastritis.* Pyrexia; anxiety; heat and pain in the epigastrium, increased when any thing is taken into the stomach; vomiting; hiccup; pulse small and hard; prostration of strength.

12. *Enteritis.* Pyrexia; fixed pain in the abdomen; costiveness; vomiting.

13. *Hepatitis.* Pyrexia; tension and pain, more or less acute, in the right hypochondrium, usually referred to the top of the right shoulder, and extending to the clavicle, increased by lying on the left side; urine high coloured.

14. *Splenitis.* Pyrexia; tension, heat, tumor, and pain in the left hypochondrium, increased by pressure.

15. *Nephritis.* Pyrexia; pain in the region of the kidneys, and shooting along the course of the ureter; drawing up of the testicle; numbness of the thigh; vomiting; urine high coloured, and frequently discharged; costiveness, and colic pains.

16. *Cystitis.* Pyrexia; tumour and pain in the hypogastrium; frequent and painful discharge of urine; tenesmus.

17. *Hysteritis.* Pyrexia; heat, tension, tumour, and pain in the hypogastrium; pain in the os uteri, when touched; vomiting.

18. *Arthropuosis.* Pain of the joints, or muscles, often after contusion, deep, blunt, of long continuance; little or no tumour; no inflammation; pyrexia slight at first, at last hectic; and finally terminating in abscess.

19. *Rheumatismus.* Pyrexia; pains in the joints, increased

creased by the action of the muscles belonging to the joint ; heat on the part. The blood after venæsection exhibits an inflammatory crust.

This disease terminates in

Arthrodynia, pain in the joints without pyrexia.

Species.

1. *Lumbago*, affecting chiefly the loins.
2. *Ischias*, the hip joint.

20. *Odontalgia*. Tooth ach.

21. *Podagra*. Pyrexia ; pain in the joints chiefly of the great toe, and especially of the hands and feet, returning at intervals : previous to the attack, the functions of the stomach are commonly disturbed.

Class I. Pyrexia. Order III. Exanthemata.

22. *Variola*. Synocha ; eruption of red pimples the third day, which on the eighth contain pus, and drying, fall off in crusts.

23. *Varicella*. Moderate synocha ; pimples bearing some resemblance to *variola*, quickly forming pustules, which contain a fluid matter, and after three or four days from their first appearance desquamate, leaving no cicatrix.

24. *Rubeola*. Synocha ; hoarseness ; dry cough ; sneezing ; drowsiness ; about the fourth day eruption of small red points, discernible by the touch, which, after three days, end in meally desquamation. Blood, after venesection, exhibits inflammatory crust.

25. *Miliaria*. Synochus ; cold stage considerable ; hot statge attended with anxiety and frequent sighing ; sweat of a strong and peculiar smell ; eruption, preceded by a sense of pricking, first on the neck and breast, of small red pimples, which in two days become white pustules, desquamate, and are succeeded by fresh pimples.

26. *Scarlatina*. Contagious synocha ; fourth day face swells, and a scarlet eruption appears on the skin in patches ; which, after three or four days, ends in desquamation of the cuticle, or is succeeded by anasarca.

27. *Pemphigus*. Pyrexia, attended by successive eruptions

eruptions about the size of almonds, filled with yellowish serum, and in three or four days subside.

28. *Frambæsia.* Fungi like mulberries growing out of the skin, in various parts of the body, discharging ichor.

Class I. Pyrexiæ. Order IV. Hæmorrhagiæ.

29. *Epistaxis.* Bleeding at the nose, with pain or fulness of the head.

30. *Hæmoptysis.* Coughing up florid, or frothy blood; heat or pain in the chest; irritation in the larynx: saltish taste.

31. *Phthisis.* Emaciation; debility; cough; hectic; purulent expectoration; hæmoptysis; diarrhœa.

32. *Hæmorrhois.* Flux of blood from the anus: pain there, and hæmorrhoids; vertigo; pain in the loins and head ach.

33. *Menorrhagia.* A too copious menstrual flux.

Class II. Neuroses. Order I. Comata.

34. *Apoplexia.* Abolition in some degree of the powers of sense and motion, with sleep, and sometimes snoring, the respiration, and motion of the heart remaining.

35. *Hydrocephalus internus.* Pain in the head, lassitude, drowsiness, and dilated pupils.

36. *Cataphora.* Sudden loss of sensation and volition, the body and limbs retaining the position, which they had when seized, or which is given to them during the continuance of the fit.

37. *Paralysis.* A loss of the power of voluntary motion affecting certain parts.

Class II. Neuroses. Order II. Adynamiæ.

38. *Syncope.* The respiration, and action of the heart, either cease, or become much weaker than usual, with paleness and coldness.

39. *Dyspepsia.* Want of appetite; nausea; vomiting; flatulence; heart burn; costiveness; and pain in the stomach,

stomach, with other symptoms of debility in the organ of digestion.

40. *Hypochondriasis.* Dyspepsia; langour and want of energy; dejection of mind and apprehension of evil, more especially respecting health, without sufficient cause; with a melancholic temperament.

Class II. Neuroses. Order III. Spasmi.

In the Animal Functions.

41. *Raphania.* A spasmodic contraction of the joints, with convulsive motions and most violent pain: periodical.

42. *Epilepsia.* Convulsions with sleep, and usually froth issuing from the mouth.

43. *Convulsio.* Alternate relaxations, with violent and involuntary contractions of the moving fibres, without sleep.

44. *Chorea.* Convulsive motion of the limbs or trunk.

45. *Tetanus.* Spasmodic rigidity of almost the whole body.

In the Vital Functions.

46. *Palpitatio.* A palpitation of the heart, either constant, or frequently returning.

47. *Dyspnœa.* Difficult respiration, continual, and without sense of stricture. Cough frequent through the whole course of the disease.

48. *Asthma.* Difficult respiration returning at intervals, with a sense of stricture across the breast and in the lungs; a wheezing; hard cough at first, but more free towards the close of every paroxysm, with a discharge of mucus, followed by a remission.

49. *Pertussis.* Convulsive, strangulating cough, with hooping, relieved by vomiting: contagious.

In the Natural Functions.

50. *Pyrosis.* Heart burn, with copious eructation, generally of a watery insipid fluid.

51. *Dysenteria.* Frequent griping stools, chiefly mucus, sometimes mixed with blood. It is commonly attended by tenesmus, and is contagious.

52. *Colica.* Pain in the lower belly, and twisting round the navel ; vomiting, costiveness.

53. *Cholera.* A purging and vomiting of bile ; anxiety ; painful gripings ; spasms of the abdominal muscles, and those of the thighs.

54. *Diarrhœa.* Frequent liquid stools with the natural excrement, but not contagious, and seldom attended with pyrexia.

55. *Diabetes.* A superabundant discharge of urine, which is limpid, and sweetish to the taste.

56. *Hysteria.* A grumbling noise in the belly ; the sensation of a ball ascending to the throat, with a sense of suffocation ; stupor ; insensibility and convulsions ; involuntary laughing and crying ; sleep interrupted by sighs ; urine limpid and abundant, previous to and after the fit ; great sensibility and irritability of mind.

57. *Hydrophobia.* A dread of water, as inducing painful convulsions of the pharynx.

CLASS II. NEUROSES. Order IV. Vesaniæ.

58. *Oneirodynia.* Disturbed imagination during sleep.

59. *Melancholia.* Erroneous judgment, but not merely respecting health, from imaginary perceptions, or recollections, influencing the conduct, and depressing the mind with ill grounded fears ; not combined with either pyrexia or comatose affections ; often appearing without dyspepsia, yet attended with costiveness, chiefly in persons of rigid fibres and torpid sensibility.

60. *Mania.* A conception of false relations, and an erroneous judgment, arising from imaginary perceptions or recollections, exciting the passions, and producing unreasonable actions or emotion, with a hurry of mind in pursuing a train of thought, and in running from one train of thought to another, attended with incoherent and absurd speech, called raving, and violent impatience of either contradiction or restraint.

61. *Amentia.* Imbecility of intellect, by which the relations of things are either not perceived or not recollected.

CLASS III. CACHEXIÆ. Order I. Marcores.

62. *Tabes.* Emaciation ; weakness ; hectic.

CLASS III. CACHEXIÆ. Order II. Intumescentiæ.

Adipose.

63. *Polysarcia.* Troublesome obesity.

Flatulent.

64. *Pneumatosis.* Air collected in the cellular texture under the skin, rendering it tense, elastic, and crepitating.

65. *Tympanites.* Elastic distension of the abdomen, not readily yielding to pressure, and sounding like a drum, with costiveness, and atrophy ; but no fluctuation.

66. *Physometra.* A permanent elastic swelling in the hypogastrium, from flatulent distention of the womb.

Aqueous.

67. *Anasarca.* Swelling on the surface of the body ; not elastic ; pitting by the pressure of the finger ; and rising slowly to its former fulness.

68. *Hydrocephalus.* External swelling of the head, soft, not elastic.

69. *Hydrorachitis.* Tumour in new born infants on the lumbal vertebræ, soft and small.

70. *Hydrothorax.* Dyspnœa ; paleness of the face ; œdematous swellings of the feet ; scarcity of urine ; impatience of an horizontal position, with sudden starting from sleep, and palpitation ; fluctuation of water in the chest.

71. *Ascites.* Swelling of the abdomen, tense, and scarcely elastic ; with fluctuation.

72. *Hydrometra.* A swelling in the hypogastrium of females not pregnant ; with fluctuation ; no suppression of urine.

73. *Hydrocele.* A soft tumour of the scrotum, increasing slowly, without pain, fluctuating, generally pellucid.

Of the Solids.

74. *Physconia.* Tumour occupying chiefly one part of

of the abdomen, increasing slowly, and neither sonorous nor fluctuating.

75. *Rachitis.* Large head; prominent forehead; protruded sternum; flattened ribs; big belly; emaciated limbs, with great debility.

Class III. Cachexiæ. Order III. Impetigines.

76. *Scrophula.* Swelled lymphatic glands; thick upper lip; obstinate ulcers: ophthalmia tarsi; indolent tumours on the joints; fair complexion; irritable habit.

77. *Syphilis.* A disease arising from impure connection, and appearing generally after a local affection of the organs, occasioning chancres; buboes; ulcers in the mouth and nose; clustered pimples of a copper colour ending in scabby ulcers, chiefly situated near the hairy scalp; blotches on the surface of the body; nocturnal pain in the bones; nodes, &c.

78. *Scorbutus.* Extreme debility; complexion pale and bloated; spungy gums; livid spots on the skin; breath offensive; œdematous swellings in the legs; hæmorrhages; foul ulcers; urine fœtid; stools extremely offensive.

79. *Elephantiasis.* Skin thick, rough, wrinkly, unctuous, and void of hair; face deformed, with tubera; voice hoarse, and sounding through the nose; want of feeling in the extremities.

80. *Lepra.* The skin rough and chapped, with white furfuraceous scales and crusts, under which is frequently a moisture, with itching.

81. *Trichoma*, or *Plica Polonica.* The hair grows coarse, and twisted into inextricable tangles. It is contagious.

82. *Icterus.* Yellowness of the skin and eyes; fæces white; urine of a high colour. It tinges linen yellow.

83. *Chlorosis.* Dyspepsia; livid paleness; great debility; palpitation; depraved appetite, with *amenorrhœa.*

Class IV. Locales. Order I. Dysæsthesiæ.

84. *Caligo.* Sight diminished, or destroyed, by the interposition

terposition of a dark body, between the object and the retina.

85. *Amaurosis.* Sight diminished, or destroyed, without any visible injury of the eye; the pupil dilated and immoveable.

86. *Dysopia.* Sight depraved, requiring one certain quantity of light, one particular distance, or one position.

87. *Pseudoblepsis.* Sight depraved, creating objects, or representing them different from what they are.

88. *Dysecœa.* Hearing diminished or destroyed.

89. *Paracusis.* Hearing depraved.

90. *Anosmia.* Smell diminished or destroyed.

91. *Ageustia.* Taste diminished or destroyed.

92. *Anæsthesia.* Touch diminished or destroyed.

CLASS IV. LOCALES. Order II. Dysorexiæ.

93. *Bulimia.* Appetite voracious or canine.

94. *Pica.* Appetite depraved, or a strong desire of unnatural food.

95. *Polydipsia.* Excessive thirst.

96. *Satyriasis.* Excessive and violent desire in men.

97. *Nymphomania.* The same in women.

98. *Nostalgia.* Impatience when absent from ones native home, and vehement longing to return, attended with gloom and melancholy, loss of appetite, and want of sleep.

99. *Anorexia.* Appetite impaired.

100. *Anaphrodisia.* Impotence.

CLASS IV. LOCALES. Order III. Dyscinesiæ.

101. *Aphonia.* Suppression of the voice, without either syncope, or coma.

102. *Mutitas.* Dumbness.

103. *Paraphonia.* Depravation of voice.

104. *Psellismus.* Vitiated articulation of the voice.

105. *Strabismus.* Squinting.

106. *Contractura.* A rigid contraction of a joint.

CLASS

CLASS IV. LOCALES. Order IV. Apocenoses.

107. *Profusio.* Loss of blood.
108. *Ephidrosis.* A violent and morbid sweating.
109. *Epiphora.* A flux of tears.
110. *Ptyalismus.* A salivation.
111. *Enuresis.* Involuntary discharge of urine.
112. *Gonorrhœa.* A preternatural flux from the urethra in men.

CLASS IV. LOCALES. Order V. Epischeses.

113. *Obstipatio.* Costiveness.
114. *Ischuria.* Suppression of urine.
115. *Dysuria.* Difficulty and pain in discharging water.
116. *Dyspermatismus.* Seminis in actu venereo tarda, impedita, et ad generationem insufficiens emissio.
117. *Amenorrhœa.* Menses wholly or partially obstructed without pregnancy.

CLASS IV. LOCALES. Order VI. Tumores.

118. *Aneurisma.* A soft tumour, with pulsation, on arteries.
119. *Varix.* A soft tumour without pulse, on veins.
120. *Ecchymoma.* A black and blue swelling, either from a bruise, or from a morbid extravasation of blood.
121. *Schirrus.* A hard tumour of a glandular part, indolent, and not readily suppurating.
122. *Cancer.* A hard tumour of a glandular part, painful and obstinate, which terminates in the foulest ulcer.
123. *Bubo.* A suppurating tumour of conglobate glands.
124. *Sarcoma.* A soft fleshy excrescence, not painful.
125. *Verruca.* A wart.
126. *Clavus.* Corns.
127. *Lupia.* A cyst under the skin, moveable, soft, indolent.

128. *Ganglion.*

128. *Ganglion.* A hard tumour moveable, on the tendon, on the cellular vagina of the tendon.

129. *Hydatis.* A cuticular cyst full of an aqueous fluid.

130. *Hydarthus.* A white swelling on the joints.

131. *Exostosis.* A hard tumour on the bone.

CLASS IV. LOCALES. Order VII. Ectopiæ.

132. *Hernia.* The displacing of a soft part, covered by the common teguments.

133. *Prolapsus.* The protrusion of a soft part, uncovered.

134. *Luxatio.* The disjointing of a bone.

CLASS IV. LOCALES. Order VIII. Dialyses.

135. *Vulnus.* A Wound.

136. *Ulcus.* An ulcer discharging pus or ichor.

137. *Herpes.* An assemblage of little creeping ulcers, itching much, and not inclined to heal, but terminating in furfuraceous scales.

138. *Tinea. A scald head.* Small ulcers at the root of the hairs, which produce a friable white crust.

139. *Psora.* Small pustules with watery heads, appearing first on the wrists, and between the fingers. Contagious.

140. *Fractura.* The fracture of bones.

141. *Caries.* The exulceration of bones.

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FINIS.